

# SD Times

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## Java EE 5 App Server Race Begins

BY ALEX HANDY

Now that the Java Platform, Enterprise Edition 5 specification has wound its way through the Java Community Process, the application server makers are preparing to update their wares with the latest Java bells and whistles.

With new support for annotations, the Java API for XML Web Services (JaxWS) and Enterprise JavaBeans 3.0 persistence, Java EE 5 promises to ease the development process for corporate coders.

But without full-scale Java

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## Schwartz Plan Reveals Little, Analysts Call Sun 'Precarious'



Former Sun CEO McNealy celebrating JavaOne's 10th anniversary last year.

BY ALEX HANDY

It was a rocky quarter for Sun Microsystems. The company's Q3 results showed a 21 percent increase in revenues, yet there was a US\$217 million loss. That, said Sun's chairman and co-founder Scott McNealy, made it the company's worst quarter of its current fiscal year. And that, he said, is why he handed over the role of chief executive to president Jonathan Schwartz after the fiscals were announced on April 24.

In addition to the company's reported losses, Sun announced

**MORE  
ON SUN  
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an 8 percent drop in SPARC-based server sales, year-over-year. The company's x86-based servers accounted for all of the company's growth in this sector, and for 27 percent of the company's overall server sales. Despite this, Sun saw a 12 percent increase in revenues in the United States, the first time that the company has seen growth in this country in two years.

Richard Gardner, research analyst at Citigroup, said that he considers Sun's current position to be precarious. In an investor

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## Business Rules Not Ruling Business

Rules will play growing role in business processes, analysts say

BY JENNIFER DEJONG

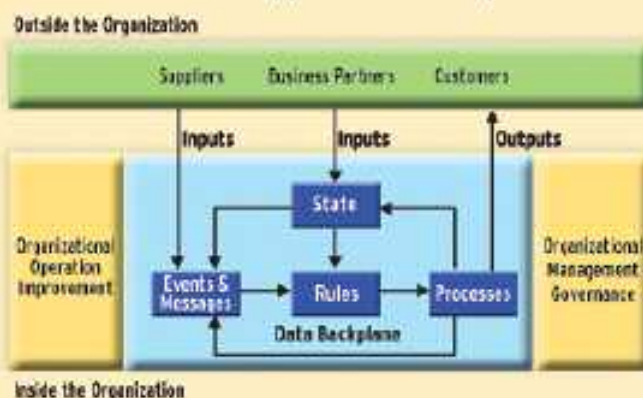
It's not quite mainstream, but business rules management technology is moving away from the margins.

Software that separates rules from the applications they govern is no longer just for rules-centric companies, such as those that issue insurance policies and process claims. It also plays an increasingly important role in any organization that wants to automate decisions within business processes, analysts said.

"Business rules are becoming part of the DNA of application development," said Steve Hendrick, an analyst for IDC. "Business rules are effective for automating deci-

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### The DNA of Application Development



Source: IDC

Business rules are a key building block of the development process, which also includes data access and the ability to respond to events, messages and an application's change in state.

## Microsoft, VMware Locked In Struggle for Virtual Dominance

Alliance attempts to secure high ground

BY P.J. CONNOLLY

A small war is raging over virtualization technology, and developers are the clear winners. Server virtualization tools from Microsoft and EMC subsidiary VMware that formerly cost a few hundred dollars per machine are now free, as in beer.

Desktop virtualization is hot, as seen by the April 24 announcement of the Virtual Desktop Infrastructure Alliance, with partners ranging from Altiris to Zeus Technology.

The one player not at that table

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Virtual desktop hosting and the alliance were in demand, says VMware's Chen.

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## New Visual Studio 2005. The difference is obvious.

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Microsoft  
**Visual Studio 2005**

# Mercury Manages Change Systems

## Software tool aggregates change data from multiple CM installations

BY ALEX HANDY

Mercury Interactive hopes to make change less frightening to large enterprises. The company on May 1 released Mercury Change Control Management, a tool for change management committees in large enterprises that sits on top of an organization's existing change management solutions and aggregates the data held therein. Mercury aims to make the information more tangible to the managers who must control the risks of daily change loads.

Simon Berman, senior director of products at Mercury, said that many enterprises are currently stuck with multiple instances of help desk software. That, said Berman, means each change made to internal software could be registered in one of a half-dozen or so ticketing systems, making change management a nontrivial task. Change Control Management, said Berman, can extract the information out of these systems and present it in normalized displays.

"The idea is we can be proactive in helping them make these decisions before

the changes get rolled out into production," said Berman. "What happens now is change management committees are kind of forced to look at only what they think are high-risk decisions."

And that can lead to trouble if developers attempt to fast-track their changes by understating their severity in the ticketing system, said Berman. To prevent such stealth

*If developers try to fast-track their changes by understating their severity in the ticketing system, that can lead to trouble.*

—Simon Berman, senior director of products at Mercury Interactive

changes from making it past the advisory board, Change Control Management sits on top of Mercury Application Mapping, a program that can

chart out the relations between changes and their dependencies.

"We flag tickets [when] we simply don't know what the

business risk is," said Berman. That helps to keep hidden changes from passing under the radar, said Berman.

Change Control Management is available now. According to Berman, the application runs on all major J2EE app servers, is compatible with all major CMS systems and works with any existing enterprise database. An initial deployment costs around US\$100,000. ■

# Contentious Component Standard OK'd

## Some in JCP expert group think JSR 291 overlaps earlier module spec

BY ALEX HANDY

JSR 291, the Dynamic Component Support for Java Standard Edition, had enough support to pass the Java Community Process in March, but along the way split the expert group into opposing camps.

The specification was crafted by OSGi, and includes the caveat that the expert group assigned to the specification would not be able to modify the spec in any significant way. Thus, some members, such as Google, JBoss and Sun Microsystems, voted against its ratifi-

cation. But the dissension was not enough to defeat the specification, which passed with a final vote of 11 to 4. The expert group was led by IBM, and supported by BEA, HP, SAP, Intel and others.

The fast pace at which JSR 291 reached completion was seen as harmful to JSR 277, a specification for the Java Module system. Hani Suleiman, CTO of Formicary and a member of the JSP 291 expert group, said that the underlying problem addressed by both of these JSRs is the lack of a sys-

tem for adding modules to Java.

"The issue right now is that Java doesn't have any real module mechanism built in. This is now enough of a pain point in the Java language that JSR 277 is slated for inclusion in Java 1.7. That will bring in a built-in mechanism for Java module support," said Suleiman, who also voted against JSR 291.

In his comments submitted alongside his "no" vote, Suleiman wrote that the two specs have "significant overlap," and that the quick "rubber-stamping" of JSR 291 "places an

undue burden on JSR 277" and its community, which will not have time to offer compromises to minimize that overlap. The impact of JSR 291, Suleiman wrote, "is going to be limited. The potential impact is that it's now possible to make an argument within the JSR 277 expert group that says 'oh by the way, here's a spec that's out, we must make sure we don't go against that specification.'"

Google also was interested in protecting JSR 277. In its explanation of its "no" vote, Google wrote: "Google is concerned about the relationship between JSR-277 and JSR-291. JSR-277 defines the core platform's approach to modularity, an area that is crucial to the continuing success of the Java platform. We are confident of JSR-277's success, but worried about the possible effects of further constraints. We are sympathetic to JCP standardization of OSGi standards, but we believe that this task is best undertaken after the underlying foundations have been established by JSR-277."

JBoss' representatives, who also voted "no," wrote: "We fail to see the need for this work to be rubberstamped within the JCP process. If it cannot be simply referenced by some other JSR, then its relevancy is immediately called into question."

Sun's negative vote was accompanied by an opinion that JSR 291 was largely redundant to the OSGi's previous spec, and that "JSR 277 is intended to cleanly accommodate current custom class loader-based solutions such as OSGi." ■

# Klocwork Founder Punches Out

## Campara's new venture to focus on software assurance

BY P.J. CONNOLLY

Sometimes, one really does leave a company to pursue outside interests. That oft-cited reason for untimely departures appears to be true in the case of Klocwork founder, CTO and chairwoman Djenana Campara, who left the company abruptly last month, saying, "I really want to move on into software assurance and focus on that."

But both Campara and Klocwork executives made it clear in interviews with SD Times that this was no boardroom revolution. Campara had been a public face for the software QA vendor since the company's 2001 founding, but she and her erstwhile colleagues had been planning this move for some time.

"There's no good way to do it," said Klocwork CEO Mike



Klocwork founder Djenana Campara left in April to start something new.

Laginski. "We brought in a very seasoned development guy a year and a half ago to take over day-to-day development activities." Laginski said the search for a new CTO was active, and already at the interview stage. The board seat is a lower priority at this time, he noted.

The customer base is unruffled, claimed Laginski. "The company's at a size now where we're entering a different phase of maturity," he said. "It's not that early-stage entrepreneurial environment. You're getting into very rigorous release management planning, balancing requirements over multiple customers. The strategy is laid out for the next several releases. There's a level of stability at the company that wasn't there," referring to the company's birth. "She was wearing multiple hats for years."

Laginski was unstinting in his praise for Campara, and rebuffed any suggestions of internal strife. "The reality of it is...you can't really suggest or even hint at that kind of move because it tends to create this

kind of response." Campara "wants to start something new and fresh," he said.

"It was time for me to move on," agreed Campara, who added, "for 10 years, I've been there," in reference to Klocwork's origins inside Canadian telecom giant Nortel. However, she's not going on a long vacation; she has plans for a new firm, called KDM Analytics, focusing on software assurance.

Campara has no intentions of cutting back on her community involvement, including her work as co-chair of two Object Management Group bodies: the Software Assurance SIG and the Architecture-Driven Modernization Task Force. She also sits on the board of the Canadian Consortium for Software Engineering Research as well as the Software Assurance Metrics and Tool Evaluation Program, a technical advisory panel of the U.S.-based National Institute of Standards and Technology. ■



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# The 'Man Who Visualized BASIC' Feted

## Human-computer interaction guru one of 34 new ACM Fellows

BY P.J. CONNOLLY

Anyone who's used an integrated development environment, especially Microsoft's Visual Basic, owes a great deal to the



Brad A. Myers of Carnegie Mellon University and the other new ACM Fellows will be honored on May 20.

work of Brad A. Myers of Carnegie Mellon University. He's edited or written more than 275 papers on human-computer interaction and related topics, and has consulted for a slew of companies in the computing industry, from Ashton-Tate to Microsoft.

Myers is one of 34 industry thought leaders who will be honored by the Association for Computing Machinery (ACM) at a banquet May 20 in San Francisco. The contributions of the new ACM Fellows span a number of fields, from timely concerns, including mobile computing and verifiable voting systems, to arcane ones, such as algorithms and compiler construction.

Myers' research covers both

professionally trained programmers and what he refers to as "end-user programmers"—including just about anyone who's written a macro—focusing on handheld devices, programming by example, and user interfaces and similar subjects.

Myers shared his thoughts with SD Times on the current state of the programming art:

"One of the interesting observations is, if you look at a modern interactive development environment like Visual Studio or even the environments built into things like Flash—environments for professional programmers and environments for end-user programmers—the techniques that are available for creating software and debugging software

really haven't advanced that much from the research systems that were available in the '70s.

"The debugging techniques are the same ones that they had right from the beginning of computers," he continued. "Things like watching a variable value, and [the] print statement, putting in break points, all those techniques were known in the 1940s with the first computers, and there really hasn't been much in the way of new techniques for how people debug and create software."

His underlying interests—aside from the gemstones that are the source of his project code names—are in how people use computers and similar devices,

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## Project Estimation Does Not Have to Be Software's 'Black Art'

Author Steve McConnell demystifies the process in his newest book



BY ALEX HANDY

"It was a heck of a topic to write about," said author Steve McConnell of his latest book: "Project Estimation: Demystifying the Black Art." The subject was conceived eight years ago.

McConnell is no stranger to writing about software development; his previous tomes—such as "Rapid Development" and "Code Complete"—have been referred to as required reading for all developers.

Now chief software engineer at Construx Software Builders, the software consultancy he founded in 1996, McConnell was once named by Software Development Magazine as one of the world's three most influential people in the software industry, along with Bill Gates and Linus Torvalds.

For his latest project, McConnell had to take a step back from building software to write about a topic that some

consider to be akin to fortunetelling. At the end of March, SD Times sat down with McConnell and chatted about his new book and how best to predict the future.

**SD Times: What two or three tips would you offer project managers who are about to estimate a new software development project?**

Steve McConnell: Tip No. 1 is read my book [laughs], but that's a difficult question to answer. The estimation challenge is significant enough; it's really not possible to distill it into a pithy tip. My book has 118 tips. If I had to pick some, one would be base your estimate on historical data. Look at how you performed before and make your estimate based on how you've performed in the past. Try to break the estimate into multiple pieces. Divide feature areas and subsystems into different development teams. If you can

decompose and estimate, you're going to compose a more accurate result. Tip No. 3 is make sure you're differentiating between your target estimates and your commitments. An estimate tells you how long and how much. A target is a description of what's desirable. A commitment is the merging of those two.

**Is there an easy equation for how many people you'll need on any given project or how long it will take?**

It really depends on the size and nature of the project. The simple answer is no. You really need to understand what's going on in the formulas, but coming up with a simple formula, those formulas depend on the size of the project, number of requirements, number of function points, the lines of codes and type of software.

**Can you name some commercial estimation tools, and are such tools accurate and reliable?**

There are quite a number of commercial tools available, and a lot have been around for 20 years. Our company offers Constructs Estimate, a free tool for this. I think our tool is far and away the best free tool. If you're willing to pay, you can take steps up. In particular, there's a nice tool from QSM called Estimate Express, based on the Putnam estimation model. In that price category, I think that's the tool I'd look at.

More powerful tools cost [US]\$20,000 per seat per year. In a large organization, it is worth it. An accurate estimate forms the foundation for good planning. If you're running an organization with a budget of \$10 million a year, it's pretty easy to justify the purchase of these tools. An accurate estimate could end up resulting in plans that are that much more successful. These tools are very complicated and require expert users, though.

**How do you go about estimating the needs of a project?**

I think where you start kind of depends on how well-developed your estimation capabilities are. If you haven't developed at the organizational level, you should start by figuring out what the thing is you're estimating. People often try to estimate before they know what they're estimating. The second thing is to document assumptions. Document the questions you have about what you're estimating.

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## ACM FELLOWS: THE CLASS OF 2005

**Thomas E. Anderson** - University of Washington. For contributions in distributed systems and computer networks.

**Dines Björner** - Technical University of Denmark. For contributions to formal methods and for international leadership.

**Stephen R. Bourne** - El Dorado Ventures. For contributions to the development of Unix and for effective leadership of ACM.

**Rodney A. Brooks** - Massachusetts Institute of Technology. For contributions to artificial intelligence and robotics.

**Surajit Chaudhuri** - Microsoft Research. For contributions to database query processing and optimization.

**Kelth D. Cooper** - Rice University. For contributions to the theory and practice of compiler construction.

**David L. Dill** - Stanford University. For contributions to system verification and for leadership in the development of verifiable voting systems.

**Christophe Diot** - Thomson Paris Research Lab. For contributions to the measurement and analysis of computer networks.

**Michel Dubois** - University of Southern California. For contributions to multiprocessor memory system design.

**Michael J. Franklin** - University of California, Berkeley. For contributions to distributed information management.

**Ophir Frieder** - Illinois Institute of Technology. For contributions to search systems for distributed data.

**Robert Harper** - Carnegie Mellon University. For contributions to type systems for programming languages.

**Maurice P. Herlihy** - Brown University. For contributions to distributed and parallel systems.

**Phokion G. Kolaitis** - IBM Almaden Research Center. For contributions to logic in computer science.

**Vipin Kumar** - University of Minnesota. For contributions to the design and analysis of parallel algorithms.

**T.V. Lakshman** - Bell Labs, Lucent Technologies. For contributions to packet processing and traffic management algorithms.

**Brad A. Myers** - Carnegie Mellon University. For contributions to interactive programming environments.

**David M. Nicol** - University of Illinois, Urbana-Champaign. For contributions to discrete-event simulation.

**Krishna Palem** - Georgia Institute of Technology. For contributions to compiler optimization and embedded computing.

**Thomas Reps** - University of Wisconsin, Madison/GrammaTech Inc. For contributions to automated program analysis and synthesis.

**Lui Sha** - University of Illinois, Urbana-Champaign. For contributions to real-time systems.

**Mikkel Thorup** - AT&T Labs - Research. For contributions to algorithms and data structures.

**Eli Upfal** - Brown University. For contributions to parallel and stochastic networks.

**Umesh Virkumar Vazirani** - University of California, Berkeley. For contributions to theoretical computer science and quantum computation.

**Vijay V. Vazirani** - Georgia Institute of Technology. For contributions to optimization and approximation algorithms.

**Roy Want** - Intel Corp. For contributions to mobile and ubiquitous systems.

**Gerhard Weikum** - Max-Planck Institute for Informatics. For contributions to distributed database systems.

**Uri C. Weiser** - Intel Corp. For leadership in super-scalar processors and multimedia architectures.

**Daniel S. Weld** - University of Washington. For contributions to planning algorithms.

**Michael P. Wellman** - University of Michigan, Ann Arbor. For contributions to market-based and decentralized computation.

**Jennifer Widom** - Stanford University. For contributions to active and semi-structured database systems.

**Walter Willinger** - AT&T Labs - Research. For contributions to the analysis of data networks and protocols.

**David A. Wood** - University of Wisconsin, Madison. For contributions to shared-memory multiprocessors.

**Hui Zhang** - Carnegie Mellon University. For contributions to network architecture, protocols and algorithms.

Source: Association for Computing Machinery

# TIBCO Wants to Tear Down That Firewall

## Partner Connect is now integral to BusinessWorks integration platform

BY EDWARD J. CORREIA

TIBCO Software has introduced Business Studio, positioning it as a tool that business analysts and other nontechnical

staff members can use to model and manage business processes and link them to services within the company's SOA.

The integration tools pro-

vider also released BusinessWorks 5.3, an update to its flagship platform that now offers a simplified means of SOA component deployment, enhanced

support for Web services specifications, and Partner Connect, its business-to-business connection tool that it formerly offered separately.

TIBCO has long specialized in integrating the systems of business partners with BusinessConnect, the former name of its B-to-B product. But according to Jeff Kristick, it no longer made sense to offer it alone. "The endgame is that organizations have complete visibility of all aspects of the partner systems that link with yours," he said. "Partner Connect allows you to extend your SOA outside the firewall."

For example, he said, when invoking a service to check a vendor's inventory, "it actually talks to a vendor's inventory management system via a Web service to request that status."

Kristick said the tool provides more flexibility than competitive solutions by building in more protocols, including EDI and industry-specific protocols such as ChemXML, ebXML and RosettaNet. BusinessWorks 5.3 also now supports WS-Security, WS-Is Basic Profile, SOAP 1.2 and UDDI export. New wizards permit the creation of services without coding from WSDL templates. The software is available now; pricing remains at US\$75,000 per server processor and is a free upgrade for current maintenance customers.

Business Studio is a commercial implementation of Eclipse that according to Kristick will benefit analysts now using simple workflow editors. "With analysts using tools like Visio to design the process, there was a disconnect" between the people building the models and the developers.

Business Studio uses the Business Process Modeling Notation (BPMN) standard. When complete, models can be exported as XML Process Definition Language (XPDL) and executed on an included runtime. BPEL support is expected to be available by September, Kristick said.

Business Studio 1.0 for Windows, in beta since November, began shipping on April 13. The cost is \$5,000 per seat, including the iProcess engine, a business process runtime component for Linux, Unix and Windows servers. The tool also is included with TIBCO's StaffWare Process Suite. ■

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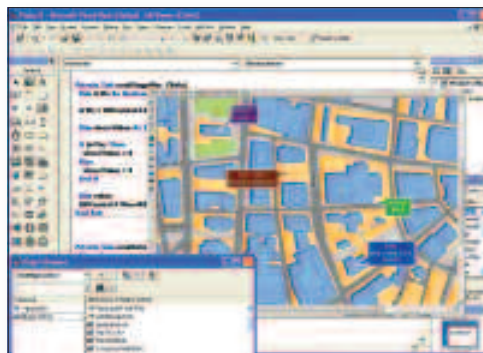
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Population demographics analysis application



Web-based property management system



Using GIS components within a commercial IDE

# Naturally Integrated.™



Chart FX for Visual Studio 2005

## The Most Tightly Integrated Data Visualization Tool Available for Visual Studio 2005

Evidence of this is the Smart Tag Wizard that exposes many of the properties to select and display in real-time. There is also a Data Wizard which allows you to quickly connect to a data source, map specific fields to the chart and instruct the chart how to use the data. The new API was designed with the Visual Studio 2005 object model in mind to make it easier to access complex functionality. Chart FX for Visual Studio 2005 adds a DHTML rendering engine that uses the AJAX (Asynchronous JavaScript and XML) web development technique to produce chart images that allow full interactivity and support state in web applications. The new Extensions Manager standardizes the infrastructure for using the Chart FX Extensions, such as financial, statistical, maps and OLAP, among others. The Chart FX Resource Center provides a 'Programmer's Guide', the Chart FX API, an Internet Reference and a wealth of samples and charts (with code). *Learn more about the seamless integration and powerful features at [www.softwarefx.com](http://www.softwarefx.com).*



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## News Briefs

## COMPANIES

**Laszlo Systems**, a provider of open-source tools for rich Internet applications, has announced a partnership with the **Dojo Foundation**, a community of JavaScript developers. The foundation's Dojo Toolkit will be licensed for use in Laszlo's open-source projects; Laszlo will contribute libraries to the Dojo Foundation.

## NEW PRODUCTS

ComponentArt has released version 2006.1 of its 3D charting solution **ComponentArt Charting for .NET**. The release includes two new controls, WebChart for ASP.NET and WinChart for .NET, for Windows Forms development. The company's 3D charting product line now supports the advanced features of .NET 2.0, ASP.NET 2.0 and Visual Studio 2005, the company claims. . . . **AdaCore** has announced the availability of the **GNAT Pro Ada** development environment on the x86-64 platform. GNAT Pro is an open-source Ada development environment based on the GNU GCC compiler technology and allows development of pure Ada applications and Ada components in multilanguage systems. The new release will run on Red Hat Enterprise Linux 4 and SUSE Linux Enterprise Server 9 on Intel EM64T and AMD64 processors.

## UPGRADES

Red Gate Software has upgraded its **SQL Bundle** database comparison and packaging tools to version 5, including enhancements to both user interfaces and underlying engines. The bundle includes SQL Compare, SQL Data Compare and DTS Package Compare. New features in SQL Compare 5, for comparing SQL Server database schemas, include the ability to push changes from development to staging, ensure version control for databases, and create a single script for migrating database changes and keeping an audit trail of changes. . . . Atlassian's flagship bug tracking system, **JIRA**, has again moved up the point release ladder. Version 3.6, released in mid-April, adds improved reporting capabilities and better control over notifications and access permissions. The software was last updated to version 3.5.3 in March. Also included in 3.6 are various bug fixes and significant speed enhancements. . . . SRC in April released its geocoding software, **Explorer**, under the LGPL. The software translates address information into longitude and latitude coordinates. . . . Sun Microsystems has announced that Oracle's **Database 10g Release 2**, a database designed for grid computing, is now available for Sun's **Solaris 10** operating system on the x64 platform. . . .



Version 7.2 of **TotalView Memory Debugger** has been released by Etnus. The new release adds the ability to graphically view how programs use memory by displaying the information as a line, pie or bar chart. . . . DevHost has released **Fast-Help 4.4**, a Windows Help File generator that produces help files in HTMLHelp, WinHelp and others. Features include a new compiler option for wxWidgets, a cross-platform programming framework that comes with its own help system and viewer. This allows users to compile to wxWidgets help from the compile screen and produce a single file with the extension .htb, available for viewing in Linux, Mac OS X and Windows.

## PEOPLE

**P.J. Connolly** has joined SD Times as a senior editor. Connolly previously worked at IDG, where he was a senior analyst and technical director of the InfoWorld Test Center. Prior to that, he was technical editor of Performance Computing magazine. . . . **Theo Beack** joined BEA Systems as deputy CTO in April. Beack has held multiple posts at Software AG, and most recently was chief SOA architect. . . . Virtutech has announced the appointment of **Kirk Fuller** as VP of worldwide field operations. Fuller has more than 20 years of management and sales experience in the high-tech industry. He spent 12 years at Rational Software, holding several sales management positions before being appointed to VP. He will be responsible for sales, services, partners and business development worldwide. ■

# FourJ's Rides ANTs Into Database Market

## Informix-like RDBMS may bite into IBM's back end

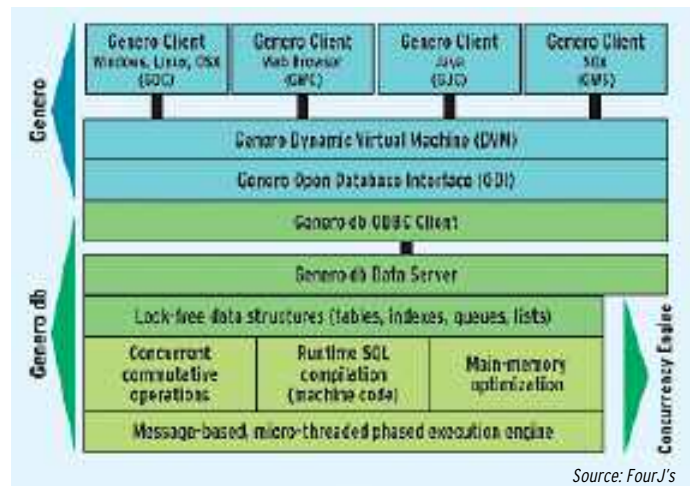
BY EDWARD J. CORREIA

FourJ's Development Tools wants to nibble at IBM's Informix market share. And to make it happen, it has elicited the help of ANTs.

FourJ's has teamed up with ANTs Software to develop Genero db, a relational database engine that it claims can serve as a drop-in replacement for most Informix editions for as little as one-quarter the price. The Informix Extended Parallel Server (XPS) is not supported.

Since 1995, FourJ's has been content with revenue from its front-end development tools for Informix and other transactional back-end systems. Its flagship Genero is a 4GL-based system and runtime for Linux, Solaris and Windows that supports dozens of databases. This is the first time the company will seek revenues from the database component itself.

"Our customers have been feeling a pinch on their margins," said Bryn Jenkins, FourJ's chief operating officer. Made



Source: FourJ's

FourJ's says Genero db is a drop-in replacement for most Informix editions.

up mainly of VARs serving financial, insurance, telco, media, retail and logistics markets, customers were asking for ways to help increase their profits on the data-driven apps they were building. "The biggest piece of the royalty pie was going to database vendors," said Jenkins.

After an analysis of what was available in the open-source community, Jenkins said it became clear that ANTs Data

Server 3.x was most appropriate. "Postgres was closest for our [needs], but it's not a commercial entity," he said, and therefore offers no structured support. "MySQL is a commercial entity, but they're missing key features we need," which according to ANTs CEO Boyd Pearce, include support for the Informix Stored Procedure Language (SPL). "So all of that would have to be rewritten," said Pearce.

Available now in the United States for about \$200-\$250 per concurrent user plus 15 percent for annual maintenance, Genero db will initially be based on ANTs Data Server 3.4, which began shipping in January with support for Informix SPL and triggers. "This permits people who build 4GL Informix applications to migrate smoothly to Genero db," claimed Jenkins. Version 3.6, which Jenkins said will be appropriate for international markets, will run on 64-bit Windows and include Unicode support. Release is scheduled for June.

The new engine also is compatible with databases from Microsoft and Oracle, including support for their stored procedures and triggers.

The RDBMS offers high availability with replication and failover, automatic disaster recovery and online backup capabilities.

Terms of the agreement, signed in July 2005, grant exclusive sales and distribution rights of Genero db to FourJ's, which will pay undisclosed royalties to ANTs. ■

## With Updates to EA and CM, Telelogic Hits ALM Suite Spot

BY DAVID RUBINSTEIN

Enterprise architecture and enhanced change management tools will be added to Telelogic's Lifecycle Suite in June following the May 16 release of System Architect 10.4 and Synergy/Change 4.5.

System Architect, the enterprise architecture modeling and management platform, will now be available in XT and ERP editions. XT provides a Web-based interface that extends access to the repository to a distributed work force through a centralized portal, according to Telelogic chief strategist Jan Popkin. Users can create custom templates for projects based on the Department of Defense and The Open Group architectural frameworks, he said.

Popkin described the ERP version as an auto-discovery tool designed for exploring ERP system metadata. "It connects into

an [ERP] application and reads the config files and data and imports it into the repository."

The System Architect 10.4 enhancements include a new, customizable user interface modeled after Microsoft's Office, and the ability to generate BPEL from processes captured from Business Process Modeling Notation models.

Synergy/Change 4.5 now comes with a dashboard that Popkin said allows managers to see what's going on inside the CM system. "The dashboard also works with Telelogic's DOORS requirements management tool and has metrics for Six Sigma and CMMI efforts.

The Lifecycle Suite, scheduled for release June 5, also will include portfolio management tools Telelogic acquired in a deal for Swedish company Focal Point in June 2005. ■

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# CollabNet Offers Subversion as a Service

BY ALEX HANDY

Two trends in software development—the rise of Subversion and software as a service—merged on April 18, when CollabNet opened the ports to Subversion On Demand, making available a slice of its online application life-cycle management solution that handles only version control.

The service is positioned as an entry-level on-ramp for development teams that need a version control system but lack the time, money or bandwidth to run it themselves. CollabNet hopes that Subversion On Demand users will upgrade to CollabNet Enterprise Edition, which adds knowledge, com-

munication and project management features, on-call development support, and a full suite of application life-cycle management tools. Subversion On Demand enhances

the open-source version with Web-based administration and user management capabilities.

In addition to the general features of Subversion, such as atomic commits and easily

moved directories, Subversion On Demand includes tools that simplify administration of a large pool of users and affords easier access to the underlying structure of the Subversion

database, allowing users to easily modify directories.

Subversion On Demand is available now at [www.collab.net](http://www.collab.net) starting at US\$55 per user, per month. ■

## Myers Joins ACM Fellows

◀ continued from page 5

and how to broaden and improve the world of programming.

His current work focuses on handheld devices and how to use them as more than just computer substitutes. His "Pittsburgh Pebbles" handheld project explores how mobile phones and handheld computers can interact with PCs and more exotic computerized devices, including automobiles, factory equipment and household appliances. Pebbles takes advantage of the ever-expanding wireless capabilities of modern devices, and features a more accessible text-entry method than current approaches such as Palm's Graffiti.

The overwhelming majority of ACM Fellows are associated with powerhouse research universities in America and Europe; Myers is one of three in this year's batch from Carnegie Mellon University in Pittsburgh. Institutions with two fellows in the current group are Brown University, the University of California at Berkeley, Georgia Tech, the University of Illinois at Urbana-Champaign, the University of Wisconsin at Madison and Stanford University; from the world of industry, AT&T Labs and Intel each had two inductees. On a regional perspective, the Rose Bowl schools had 13 of the 34 honorees, with the Pac-10 nosing out the Big 10, 7 to 6. ■

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# Microsoft, VMware Struggle for the Virtual Desktop

◀ continued from page 1

was Microsoft. It should be no surprise—although Microsoft has nothing that can compete with VMware's production-grade ESX Server, it's fighting a guerril-

la war with VMware for the mid-range developer and tester markets. While VMware GSX Server and Microsoft's Virtual Server 2005 are on similar footing as far as feature sets go, VMware may

hold more hearts and minds due in part to its longtime support for Linux installations.

VMware fired the first shot in February by announcing that it would give away its software in a

new package, replacing its GSX Server—VMware Server, now in beta and due for release in June. Many observers saw this as a move against both Microsoft and open-source rival XenSource.

Microsoft salves came last month by making its Virtual Server 2005 R2 available for free, adding support for Red Hat and Novell/SUSE Linux virtual systems, and announcing that partners, including XenSource, had licensed its Virtual Hard Disk format scheme. The same day, VMware countered by opening up its own disk format, and followed weeks later with the new alliance.

## THE REBEL ALLIANCE

The Virtual Desktop Infrastructure Alliance aims to promote the efforts of hardware companies, service providers and software vendors to build virtualized desktop products for business, melding VMware's virtualization expertise and the partners' products.

Jerry Chen, VMware's director of enterprise desktops, said the move to virtual desktops has been based mainly on demand. "Virtual desktop infrastructure has largely been a customer-driven offering, and the new alliance as well. We've had customers ask, [as] early as 2002, [to] use our server platform software to host desktops." He went on: "Over the past two or three quarters, we've seen not only a number of customers inquire about hosting desktops, but also a dramatic increase in the size of these deployments, from a few hundred to a few thousand seats."

Redmond's only reaction to the rebel alliance came from an anonymous Microsoft spokesperson who predictably reaffirmed the company's commitment to the Virtual PC technology, and declined to discuss its further direction. The Virtual Server Web site indicates that the service pack to Virtual Server 2005 R2 due in early 2007 will add support for the latest AMD and Intel virtualization extensions, and for Windows' Volume Shadow Copy Service.

Judging from VMware's quarterly earnings, there's a lot of money at stake. Ringing up US\$131 million in revenue during Q1 2006 puts the EMC subsidiary on track to record over a half-billion dollars for 2006, compared with figures of \$387 million for 2005, \$218 million for 2004, and less than \$100 million for 2003. Whether this will prove to be a sufficient war chest remains unknown. ■



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# Software Security Summit Comes East

Three-day technical conference focused on designing, writing secure applications

BY DAVID RUBINSTEIN

After two years on the West Coast, BZ Media's Software Security Summit will come to the East Coast June 5-7, with more than 40 classes and tutorials and an exhibition hall at the Hyatt Regency in Baltimore.

The Software Security Summit is the only conference that focuses on security at the application development level, according to conference chairman Alan Zeichick, who is also the editorial director of SD Times, a BZ Media publication. The program is geared toward software architects and developers who must design and write secure software; systems and development managers who ensure the applications are protected against attack; and the test/QA professionals who must make sure new applications meet the organization's security criteria.

Among tutorials being offered are "Building Security In: Implementing a Software Security Improvement Program," "Improving Security and Compliance—Without Stifling Architectural Creativity" and "Writing Secure Code for .NET Applications." The tutorials are daylong sessions and will be held on Monday, June 5.

The classes offered over the next two days include "Security Requirements Engineering," "The Hacking Evolution: New Trends in Exploits and Vulnerabilities" and "Securing J2EE

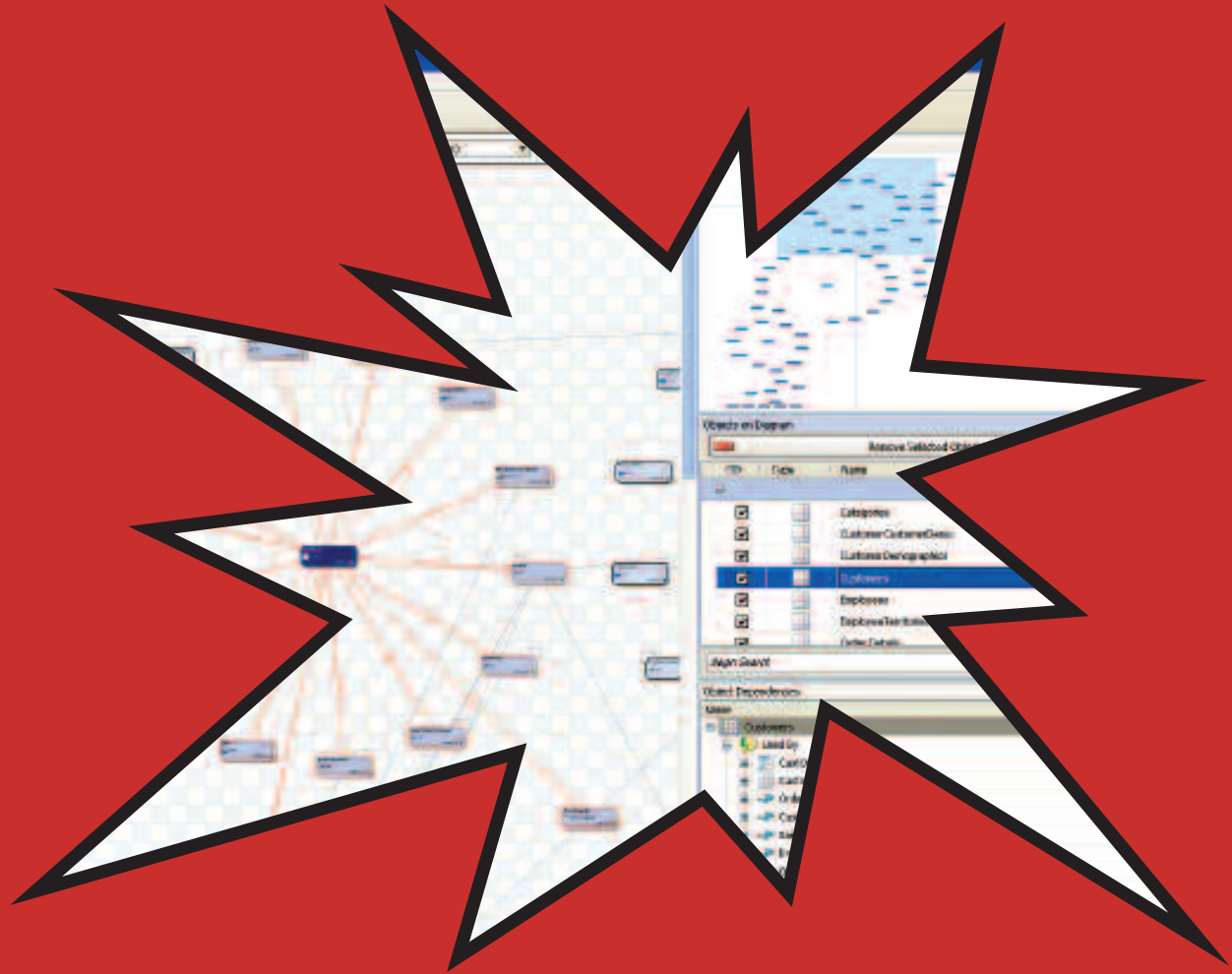
Applications: Coding Patterns for Secure Connections to Services." The faculty includes more than 30 experts in a wide range of security areas, from coding prac-

tices to testing to architecture.

The opening keynote, "Breaking Security Systems," will be given by Aviel D. Rubin, the technical director of the

Information Security Institute at Johns Hopkins University in Baltimore. Steven B. Lipner will follow the next day with his keynote, "The Microsoft Securi-

ty Development Life Cycle: What We Did, What You Can Learn." Lipner is a Microsoft senior director of security engineering strategy. ■



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**TECHNICAL CLASSES:**  
**Tuesday, 8:45 am-4:15 pm**  
**Wednesday, 9:30 am- 5:15 pm**

**KEYNOTES:**  
**Tuesday, 4:45 pm-5:30 pm,**  
"Breaking Security Systems,"  
Aviel D. Rubin  
**Wednesday, 8:30 am-9:15 am,**  
"The Microsoft Security Development  
Life Cycle: What We Did, What You  
Can Learn," Steven B. Lipner

**EXHIBIT HOURS:**  
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**Wednesday, 12:45 pm-4:00 pm**  
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# Sun Loses Four to AJAX Start-Up

## JackBe nimble enough to scoop up Web services, Java talent

BY ALEX HANDY

In February, AJAX consultancy JackBe announced four new hires, all of whom were former

Sun Microsystems employees. Among them was John Crupi, Sun's former CTO of enterprise Web services. Crupi felt

that Sun was using rope to try to sew up a button. The rope was the J2EE framework, and the button was the browser.

Crupi, now JackBe's CTO, along with Deepak Alur and Dan Malks (both former Sun principal engineers) and Yiheng

Shi (from Sun's telecom group), all felt that Sun was unable to adapt to a landscape devastated by AJAX. JackBe's primary goal is to combine SOA deployments with AJAX front ends, and that's something Sun didn't understand, said Crupi.

"Sun was big on the SOA idea, and Sun was definitely interested in AJAX, but the problem was this was disrupting a bit of the status quo of what was out there in Java and the traditional heavyweight framework," said Crupi. "JavaScript can function without any framework on the back end. It's a tough thing for Sun to understand this. You're attacking these heavyweight frameworks here—and J2EE is a very powerful framework—but it's too heavy for these types of applications. We didn't feel that we had the opportunity [at Sun] that we have [at JackBe]."

For Crupi, and for a growing number of his peers, including Sun's Tim Bray, SOA development is increasingly about quality interfaces and rich Web experiences rather than giant frameworks and massive deployments. In April, Bray wrote in his blog, "The crucial point is that Web-like things should be simple and lightweight and easy to set up; so I think the 'Web' part of 'Web Services' is more important than the 'Services' part. SOA isn't the future, Web style is."

But Crupi believes that Sun isn't the only company addressing AJAX and Web services incorrectly. "I'm still a big fan of Sun, but I think that Sun and a lot of these companies that have grown and built the base for heavy framework and middleware are in a state of frenzy to understand what they can do," said Crupi. "The natural decision they make is to tack AJAX capabilities onto existing frameworks. Some say they have AJAX-enabled business processes, but that means they just tacked on AJAX to their middleware. I think a lot of the big guys are struggling to figure out what to do."

But Dan Roberts, director of marketing for developer tools at Sun, said that his company is working to push JavaScript into the next release of the Java Standard Edition.

Roberts added that Sun offers top-notch XML processing software to handle all those AJAX requests on the server side. ■

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# Java App Server Developers Race to Comply

◀ continued from page 1

EE 5-compliant application servers available, many will have to wait until next year to wade into this new revision of the language. (The Java EE 5 spec, also known as JSR 244,

was approved by the Java Community Process on May 1.)

John Rymer, vice president of the application development and infrastructure group at Forrester Research, said that the first available Java EE 5 application serv-

er, the open-source Glassfish project, is not attracting much attention from the enterprise crowds. According to Rymer, most companies are waiting for the more robust offerings from BEA, IBM, JBoss and Oracle.

Rymer said that his clients are mainly interested in how application servers handle EJB 3.0. Blake Connell, director of WebLogic Server product marketing at BEA, agreed, citing the company's acquisition last

fall of SolarMetric, which develops the Kodo implementation of the Java Persistence API (JPA). BEA's Java EE 5-compliant app server should be ready by the end of 2006, according to Dave Douglas, BEA's chief architect of WebLogic.

Mark Heid, program director for IBM's WebSphere Application Server, said that EJB 3.0 is high on his company's priority list as well. "It offers a persistence layer for accessing data store back ends that hasn't been available thus far," said Heid, adding that the company would "be delivering parts of Java EE 5 over the next 12 months. They'll be delivered as additions to version 6.1."

Sun Microsystems' Java EE 5-compliant application server is available as a beta, under the name Application Server PE 9. The server is based on Glassfish, the Sun-led open-source Java EE 5 server. Oracle has also been a member of this project, contributing its EJB 3.0 implementation.

Ken Drachnik, group product manager of the application platform group at Sun, said the server should be released this summer.

Shaun Connolly, vice president of product management at JBoss, said that version 4.0.4 supports EJB 3.0. "Our app server 5.0, which will basically sweep up all that stuff and round out some of the other specs, will likely be hitting the community release in the summer, and then it will finalize after that toward the end of the summer," said Connolly.

Another company that's already implemented the new persistence standards of EJB 3.0 is Oracle. "We've seen them grow dramatically during the last two or three years, both in product development and in the marketplace," said Rymer, who has been briefed by each of the major app server makers. "I have not seen the Oracle app server being used at the same scale as I've seen WebSphere and WebLogic being used," said Rymer.

Mike Lehmann, director of product management for Oracle Application Server, Java EE and Web services, said his team is "focusing very heavily on EJB 3.0 and JavaServer Faces as key componentry that will be Java EE 5.0 ready in the next release of Oracle Application Server." Lehmann did not estimate a release date, however. ■





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# Ozzie and Microsoft Groove on Vision of the Future

## Groove Network's founder kicks off Tech-Ed with opening keynote

BY DAVID RUBINSTEIN

Microsoft chief technology officer Ray Ozzie will kick off the company's Tech-Ed Conference in Boston next month with a Sunday night keynote discussing Microsoft's vision of the future of IT, and how to get there.

Ozzie, the founder of Groove Networks, which Microsoft acquired in April 2005, will give one of three Sunday night speeches on the opening evening of the conference. Also speaking that night will be Bob Muglia, senior vice president of the company's server and tools business; and Chris Capossela, corporate vice president overseeing the Office suite and other business productivity tools.

Leading some strategic briefings will be Steve Guggenheimer, general manager of Microsoft's application platform and development tools marketing; and Ben Fahti, who will discuss security of the platforms.

There are 13 core tracks, including software architec-

ture, developer tools, messaging and mobility, security and Web development. Within those tracks are more than 400

technical sessions, including such topics as "Incorporating Agile Development Into Your Organization," "Web Services

Security" and "Why Hosting on Windows."

From Monday through Friday, there will be certification

training sessions and classes in a technical learning center, as well as other breakout sessions on a variety of topics. ■

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### EXPO HALL:

Monday, 12:00 pm-3:30 pm

Tuesday, 11:30 am-4:30 pm

Wednesday, 11:30 am-5:30 pm

Thursday, 11:30 am-3:30 pm

### BIRDS-OF-A-FEATHER SESSIONS:

Tuesday, 6:30 pm-10:00 pm

### WOMEN IN TECHNOLOGY

### LUNCHEON:

Wednesday, 11:30 am-2:00 pm

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Mike Milinkovich,  
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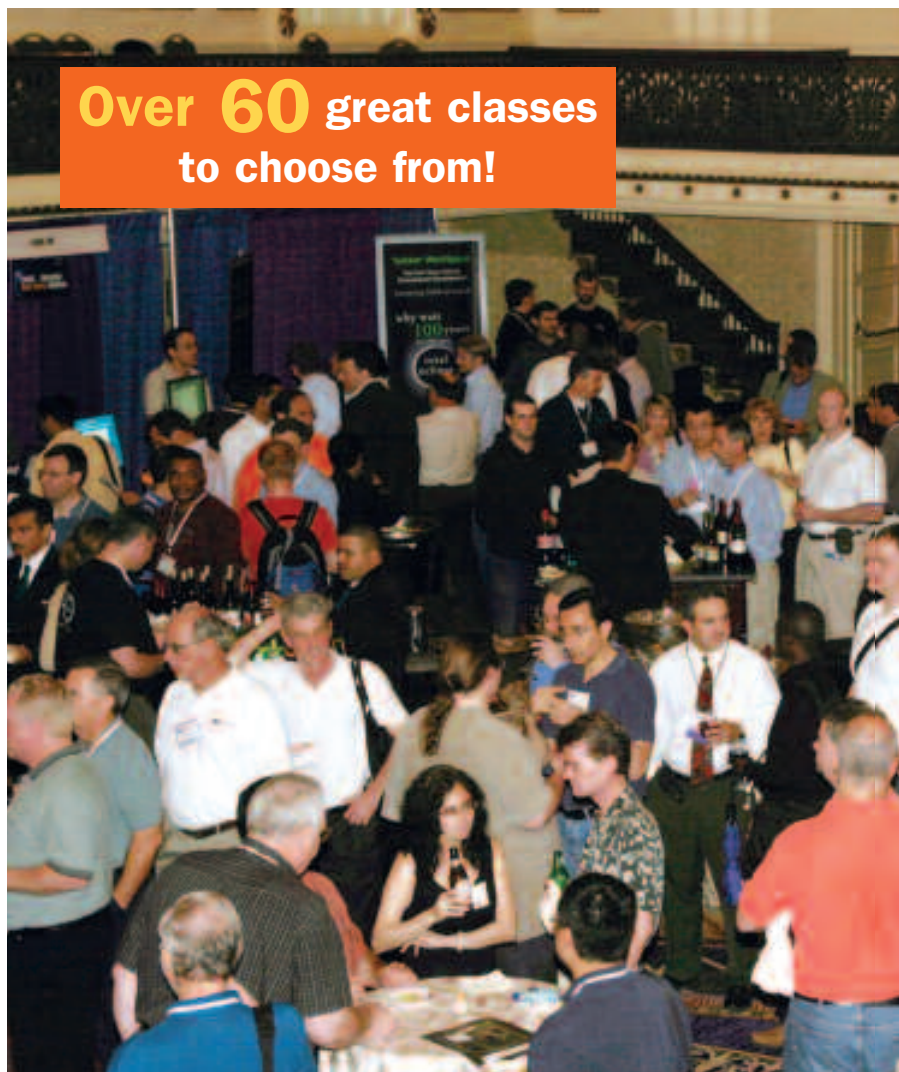
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# The 'Black Art' of Project Estimation

◀ continued from page 5

You should be trying to look up documented facts about the effort and schedule of some kind of similar project in the same organization. It's as much a function of the organization as

it is of people on the project. Once you get beyond five or six people, the attributes of the organization are really going to have a major influence on the project's outcome. Info on past projects is incredibly useful.

**In your experience, what sorts of estimation techniques produce inaccurate results?**

Unfortunately, I think the most commonly used techniques are the ones that produce inaccurate results: gut instincts, off-

the-cuff guesses and any kind of estimation where you don't sit down and assess what you're estimating. A lot of the numbers floating around that people call estimates I wouldn't call estimates. Business targets and

desirable objectives for business aren't, as there's never been any analytical assessment. I tend to think that the substitution of business targets for estimates is worse [than gut instincts]. We find that at the business level, there will often be an incredibly strong need to meet a particular target, but the fact that there's a strong need for that doesn't mean that is necessarily achievable.

**What do you do when a project begins to bloat out of control? How do you stop "featureitis," the constant creep of features?**

Whether it is out of control or on track, it's good practice to plan from the beginning to re-estimate over the course of the project. That's just natural. You're going to discover things about the project and the project team, and you can collect data on the project and team and it becomes historical data. Many projects re-estimate only in response to a schedule slip. Then there's a heavy bias on the estimate because you hope that the estimate comes out low. If you plan ahead to re-estimate at several points, the focus is more on the accuracy of the estimates.

**How do you estimate for maintenance releases?**

Maintenance work does require some different approaches. There's no one right way to estimate maintenance. There's so many different kinds: Certain kinds might be fairly wholesale revisions of an existing system, and in that case the focus on estimation is going to be more similar to regular estimation. Others are like bug fixes, which means you've got lots of open issues—these tend to be closed with a small amount of effort. That's a great time to use historical effort to estimate. Then there's the middle ground that calls for a hybrid approach where you're looking separately at major enhancements and minor enhancements.

**How do you predict QA needs ahead of time?**

We see ratios of three developers per tester, 10 developers per tester, and it's not uncommon to have no testers at all. With e-commerce or shrink-wrap software, you might see one tester per developer, or with highly critical systems you may see 10 testers per developer. The real answer is that historical data is as useful for estimating QA as it is for anything else. In the long run, you want to capture data on QA and use that on future projects. ■



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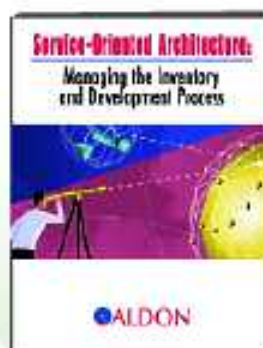
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# Sun Sets on McNealy

◀ continued from page 1

report released the week of McNealy's resignation, Gardner wrote that "Sun's continued efforts to develop and market an end-to-end enterprise-computing platform place it in direct competition with significantly larger competitors such as Microsoft, Intel, IBM and Hewlett-Packard. Microsoft and Intel alone spend [five to six times] as much annually as Sun on R&D, making it difficult, perhaps impossible, for Sun to keep up with these companies' pace of innovation."

Schwartz laid out a 90-day plan for Sun during a conference call held alongside McNealy on the day of the announcement. In it, he said that Sun had \$4.4 billion in the bank, and that the yearly trimming of research and development projects would be somewhat more intense this year.

Schwartz's further discussion of the 90-day plan was vague. He did mention that Sun would be evaluating all of its corporate resources, particularly its market-facing operations. Schwartz was hesitant to discuss possible layoffs at the 38,000-employee company.

Schwartz has been an integral part of Sun's move into the open-source world. "We will be one of the consolidators in the open-source industry," he said, and

hinted that his company's large cash reserves may be used for acquisitions.

Forrester Research isn't so concerned with those ideas as it is with the execution of them, however. In a report published days after the resignation, Forrester analysts wrote, "Don't expect the shift from McNealy to Schwartz to generate big changes in direction at Sun. The strategy is sound, and in any case it's already largely Schwartz's strategy. Expect more new ideas, which is Schwartz's stock in trade, but Sun needs execution as well as ideas."

The Forrester report laid out a three-point plan for Sun to return to the forefront. It called for Sun to pull together its disparate parts to form a more cohesive whole, to chase sales and marketing more fervently, and to fill its vacant head-of-software position with an aggressive software monetization advocate.

Despite calls for dramatic change, Schwartz maintained that his vision for the future of Sun was exactly the same as McNealy's, and that the only major difference between himself and his predecessor is their haircuts.

McNealy founded Sun along with Andy Bechtolsheim, Bill Joy and Vinod Khosla in 1982, when he was named CEO. He was elected chairman in 1984. ■

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# Business Rules Are Still the Exception So Far

◀ continued from page 1

sions within processes," added Forrester Research analyst John Rymer, in a report published in January titled "The Forrester Wave: Business Rules Platforms." According to Rymer, "They make it possible to change the business rules without breaking the application (or applications) that call it."

Business rules spell out policies, such as which customers a bank will approve mortgages for, at what interest rate; or which drivers an auto insurance firm will underwrite, at what price. Instead of encoding such policies using a conventional programming technique, a business rules management system (BRMS) stores rules in a repository and executes them in an engine separate from the applications to which they apply. That enables developers and business users to revise or replace rules without having to alter an application's source code.

"Rules aren't embedded in the platform," said James Taylor, a vice president of product management for Minneapolis-based Fair Isaac, which sells the BRMS Blaze Advisor, among other offerings. Centralized

## THE TIPPING POINT

Chief among the reasons why companies adopt business rules technology is changing market needs, said Steve Hendrick, an analyst for IDC. "Rapid change is the poster child for business rules." A rules-based approach makes it easier to implement last-minute decisions, such as price cuts to products sold on the company's Web site, in order to keep pace with competitors, he said.

"An executive makes a decision, and a new policy must be implemented quickly," said Jean-Francois Abramatic, chief product officer for ILOG.

The growing complexity of commonplace business processes, such as loan approval, is also a factor, said Stephanie Wilkinson, manager of WebSphere product marketing for IBM. "Decision trees are part of that process." A loan application may take many paths before it is approved or denied, she said, offering an example. Busi-

ness rules make it easy to map out each possible path, compared with writing and maintaining code to accomplish that same task, she said.

Adoption of business rules technology is driven by the kind of problem you are trying to solve, said James Taylor, a vice president of product marketing for Fair Isaac. Processes that entail lots of rules, such as medical bill review, are a natural fit for business rules, as are scheduling applications, where each change that is made impacts another. "That is hard to code in procedural programming."

In some cases, it's essential for business rules to be managed by professionals who understand the content of rules, said Taylor. For example, rules that specify which prescription drugs interact with which others must be managed by a pharmacist. "You don't want a programmer to do that," he said.

—Jennifer deJong

management means rules can work with multiple applications, much the same way a database does, he said.

"You can manage rules the same way you manage data," added Jean-Francois Abramatic, chief product officer for Mountain View, Calif.-based ILOG, which sells JRules and other BRMS offerings.

BRMS makers like the database analogy. But if their offerings are to become as ubiquitous

as database software, they have a long way to go. A survey conducted by IDC in 2005, which asked developers about various underlying technologies for building applications, found that less than 9 percent of those surveyed use rules-based management systems, said Hendrick. That number is expected to double over the next three years, he said. Forrester has yet to measure BRMS adoption rates formally, but it, too, sees a growing trend.

## KEY BUILDING BLOCK

The increase is largely due to the growing role rules play in apps built around business processes. Enterprise applications today include five basic building blocks, one of which is business rules, said IDC's Hendrick.

The first is easy access to data. The second is support for messaging and eventing, which involves accessing real-time information, such as data generated by RFID devices, indicat-

ing, for example, that a palette of products has arrived at the warehouse, he said. The third is business rules, which specify what to do with the eventing data. The fourth building block is the ability to apply a process, such as a transaction, based on business rules. And the fifth is the ability to support a change of state. "When an airline reservation becomes a paid-for booking, it has changed state," said Hendrick, offering an example.

IBM agreed that rules are gaining importance in business processes. "[Business rules technology] is evolving as a subset of business process management and business integration," said Stephanie Wilkinson, manager of WebSphere product marketing for IBM. The company's WebSphere Process Server does not include a rules engine, but it lets developers define business rules as part of the workflow process. That level of rules support is sufficient for 85 percent to 90 percent of IBM's customers, Wilkinson said.

Microsoft also addresses rules in the larger-context business process management and integration. Its BizTalk integration server includes a full-blown rules engine, noted Steven Martin, a director of product management for Microsoft.

"All of the big vendors have dabbled in the business rules in some way," added IDC's Hendrick.

## COMPETING PARTNERS

"Like any technology, business rules become mainstream when the market at large recognizes the technology," said ILOG's Abramatic. "They have acknowledged that rules are important, and validate a trend," added Fair Isaac's Taylor, referring to Microsoft's rules engine, as well as Oracle Business Rules, which is based on the Sandia Lab's rules engine Jess. The presence of major players in the rules arena, as well as the growing importance of rules in managing business processes, is helping move BRMSes into the mainstream.

However, there is still a huge, untapped market of companies that don't use rules engines yet, said Abramatic. "But business rules will become first-class citizens," he predicted. ■

# Pegasystems Update Bucks User Complexity

BY JENNIFER DEJONG

Pegasystems has beefed up a key component of its rules-based business process management offering, adding ease-of-use and better rule-conflict analysis features.

The Cambridge, Mass.-based company last month released PegaRules Process Commander 5.1, a component of its SmartBPM Suite.

The updated offering, which replaces 4.8, sports a cleaner user interface, said Jon Pellant, chief technologist for Pegasystems. "It presents simple icons and pictures, asks you what you want to do and then guides you through the steps of creating an application." Process Commander relies on Asynchronous JavaScript and XML (AJAX) to accomplish that.

"We haven't been able to do that before in the browser," noting that earlier versions were also thin-client-based. Instead of presenting develop-

ers and business users with as many as 50 options when they log on, version 5.1, expected by the end of second quarter, works to "infer the intent of the user," providing features based on the user's behavior, he said.

Also new is context-sensitive help, the ability to change the appearance of the software by adding colors and motifs, such as "wooden" or "stone," and better localization support, said Pellant. Previous releases of Process Commander had been "internationalized" to support multiple languages, but lacked complete support for localization. Localization refers to the process of changing the behavior of an application to reflect the customs of the local user base. For example, the job title "systems architect" is well-understood in the United States, but in Asian countries, where it has no meaning, it must be replaced with a meaningful term, he said.



PegaRules Process Commander 5.1 sports a cleaner user interface, and infers the intent of the developer, based on previous actions.

## CONFLICTING RULES

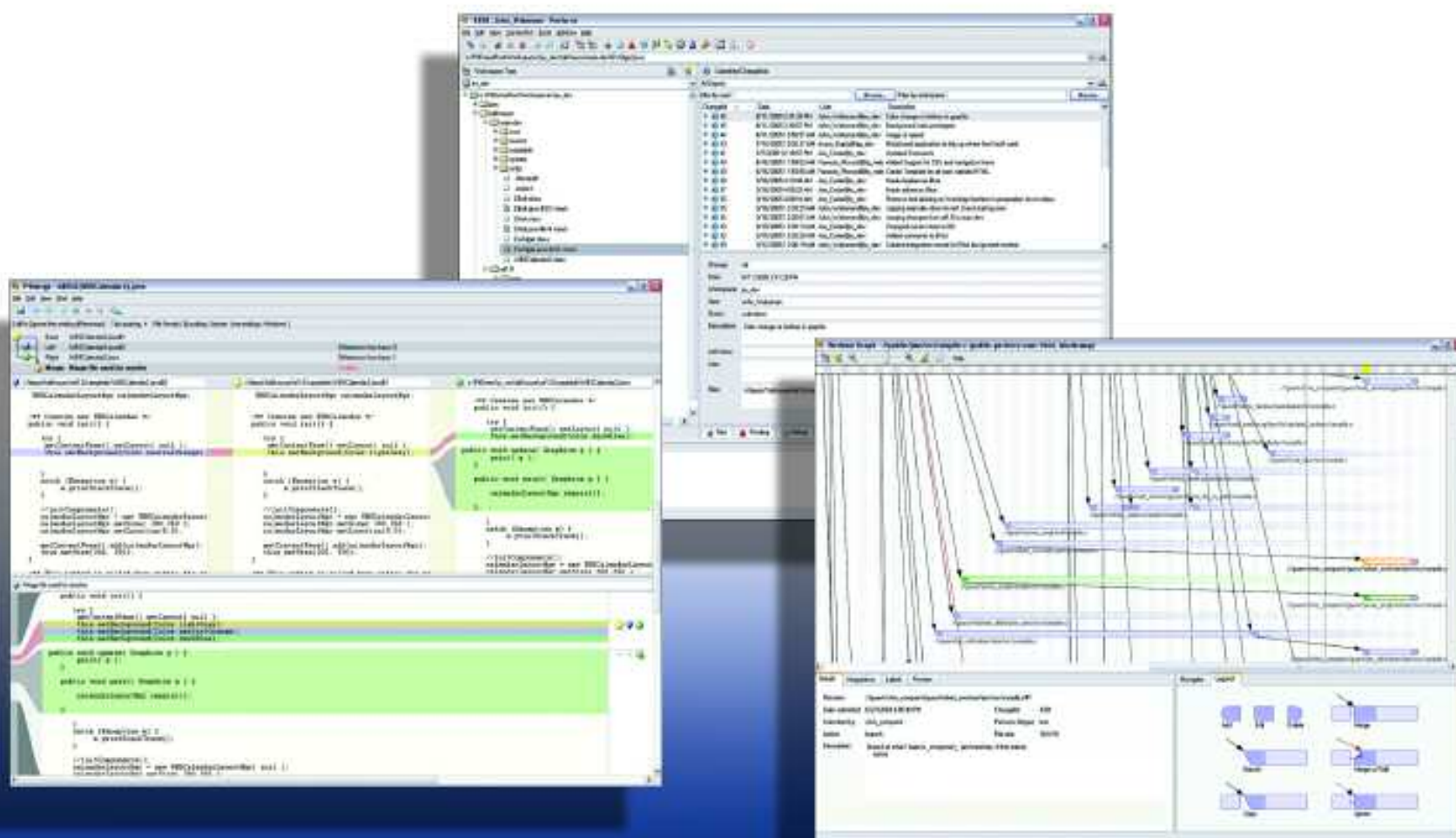
Earlier versions of Process Commander required the user to run a conflict analysis report, but 5.1 automatically detects potential business rules conflicts and prompts the user to resolve them, said Pellant.

For instance, the rule, "If policy holder is a skydiver, classify him as high risk," conflicts with, "If age of policy holder is

more than 60, he is high risk," explained IDC analyst Steve Hendrick, offering an example. "What do you do if the age of the person who skydives is 35?" All of the leading developers of rules software are engaged in serious efforts to remediate this problem, he said. "If you allow too much independence of rules, you can end up with incomplete information." ■

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# DSO Panel Not As Advertised

BY EDWARD J. CORREIA

Last month, an opportunity to take the first steps toward unity among makers of embedded development tools and systems may have been lost.

Among the planned events at the Embedded Systems Conference, which took place in early April, was a panel discussion intended to serve as the first high-level meeting of the "five families" of embedded systems and tools. The chief executives of Enea, Wind River Systems and other DSO-friendly companies were invited to give a "candid, up-to-date take on where they see device software optimization," according to a description on the conference Web site.

It was apparently an offer they could refuse.

The meeting was the brainchild of Johan Wall, president and CEO of Enea, who last year issued a call for unity in the industry. "We have exploding code complexity, tight time for development and tighter margins with regard to cost of the final product," he said during a phone interview following the conference. "We need reusable code, better tools and perhaps better standards for interfaces," which he said can best be achieved through cooperation among competitors.

"I've publicly called for [a meeting] and will continue to do so. There was originally hopes of a panel with CEOs [at ESC], but for various scheduling reasons, it never materialized," he said. That meeting, titled "DSO Defined: What Industry Leaders Think About DSO in the Real World," was to be the first to involve discussions beyond the one-on-one interactions initiated by Wall. "We've had many good discussions with companies—including Wind River [president and CEO] Ken Klein—that have been very productive."

Instead of hearing from CEOs, about 60 attendees heard from Enea vice president of marketing Karl-Gustav Niska, Wind River chief marketing officer John Bruggeman, and Green Hills Software vice president of engineering David Kleidemacher.

Wall characterized DSO—which to some industry analysts is pure marketing—as a call to action. "I am not in any way prescribing specific solutions, but clearly illustrating the issues," said Wall.

Bruggeman pointed to the parallels between Enea and Wind River. "There are similarities between [the two companies] in terms of the way we see this industry evolving and how we have to work together," he said.

Wind River is largely credited with

coining the term DSO as device software optimization. "We prefer to call it 'device software optimized,' focusing on the end result," quipped Wall.

In any event, the audience was treated to a lively, interesting and often humorous discussion, much of which involved a debate between archrivals Green Hills and Wind River.

## CLASSIC RIVALS

Green Hills' Kleidemacher contended that the embedded industry should move toward a single, universal RTOS with a single set of APIs.

"If you're a developer working on a real-time operating system, you might learn one API, then you move over to another project and let's say you start using Linux, that's a different API, and if you're going to be using POSIX on another project, it's a different API," he said, according to a transcript of the discussion. "Doesn't it strike you as a bit odd that no one's saying they want a single standard operating environment at the target level? We think the next phase of DSO is [to] have commonality in the runtime environment."

"We have a very, very different point of view about that," said Wind River's Bruggeman. "We think where the commonality requirement lies is much higher in the stack. And what the developer will benefit from is a universal middleware layer that can work with multiple OSes down at the target level," he said, according to the transcript.

"You need to have some kind of common API [that is] scalable [and] OS-agnostic," reiterated Enea's Niska, according to the transcript. "What you're basically describing from my perspective is our new LINX interprocess communication protocol," he said, referring to open-source technology for Linux and Enea's OSE RTOS that the company unveiled in March, claiming superior performance to TIPC, the protocol backed by Wind River.

"I agree that that's a move in the right direction, but that's an interprocess communication mechanism, and developers care about a heck of a lot more," noted Kleidemacher. "How do you create a process with LINX? How do you write a file? Our goal is a higher-level view of all the things that people are doing to write software. And POSIX is a big part of that," he added.

"The problem," continued Kleidemacher, "is someone will use LINX, someone will use TIPC or CORBA or some other thing, and again you have to learn three different technologies. So let's come up with a single technology." ■

# Recursion Keeps Device Developers on the Edge

## Voyager Edge intelligent agents divine remote knowledge from network chaff

BY ANDY PATRIZIO

CORBA wasn't meant for handheld computers. So Recursion Software has introduced an intelligent mobile agent and communications framework designed to allow large volumes of data to be processed and distributed across the less-than-reliable mobile networks used by handheld devices.

Introduced at the Systems and Technology Conference in Salt Lake City earlier this month, Voyager Edge is meant for a variety of industries—including health-care, manufacturing and the military—that are reliant on the gathering and management of business intelligence from mobile devices in the field.

Voyager Edge allows agents within the framework to move around or be dispatched, all with rules to perform specified tasks. According to Recursion CTO Bob Deanna, the goal is to provide functionality normally reserved for a desktop or laptop to exist at the edge of a network. "There is an expanding number of devices out in the world and an increasing amount of info being collected with them," he said. "But we still have networks that are unreliable or cannot handle the sheer amount of info being passed over them."

### INTELLIGENT ANALYSIS

The problem, as Recursion sees it, is that edge devices don't process data—they simply send back enormous amounts of raw data. If it's a dumb device, like a sensor, then it has no intelligence at all to filter out useless data. The Voyager wizard allows developers to create embedded applications that perform intelligent analysis of raw data on an edge device and filter out unnecessary information.

To be compatible with Voyager Edge, devices must at some time have network connectivity and the ability to run a JVM. Voyager uses the CORBA (IIOP), SOAP, J2EE (RMI-over-IIOP) and XML-RPC standards for remote communication, and later this year there will be .NET support, Deanna said.

By intelligently determining what information needs to be sent back over the network, Voyager Edge can reduce traffic on an order of magnitude

from 10 to 100, said Deanna. It depends on what is being collected. A scan or data input would have less data than a sensor, which takes in everything

around it, he said.

The lineage of Recursion's technology dates back to ObjectSpace, which sold off some of its key technologies to Recursion in

2001. That included Voyager, a Java-based distributed computing platform; the C++ Toolkit, a set of class libraries; and Java Generic Libraries, a set of col-

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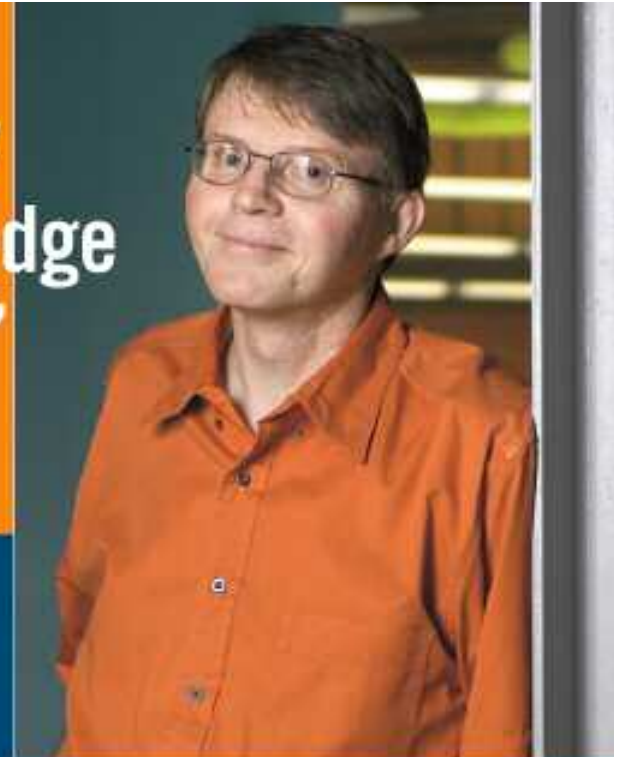
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# Eclipse Sets

## Callisto effort will culminate with

BY BARRY BURD

To avoid some of the chaos that can accompany open-source team efforts, the Eclipse Foundation is orchestrating the release of 10 of its most prominent projects. The grand finale takes place near the end of June, when all 10 projects release major updates on the same day. This 10-way coordination, code-named Callisto, has been in the works since August 2005. The Callisto release includes updates to BIRT (the

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Business Intelligence and Reporting Tools project), WTP (the Web Tools Platform project), TPTP (the Test and Performance Tools Platform project) and other projects in the Eclipse dominion. Also included as part of the Callisto plan is the release of Eclipse 3.2, this year's update of the overarching Eclipse Project.

"What if you want to use the Web Tools and the Data Tools together?" asked Bjorn Freeman-Benson, technical director of open-source process and infrastructure for the Eclipse Foundation. "Last year we released the two projects on different days. They were close, but they were still two different days. You couldn't be sure which version of Web Tools to use with which version of Data Tools. People were confused."

Some observers are still confused about the scope of the Callisto effort. According to an official Web page ([www.eclipse.org/projects/callisto.php](http://www.eclipse.org/projects/callisto.php)) describing Callisto: "While Callisto is about the simultaneous release of ten projects, it is not a unification of the projects—each project remains a separate open source project operating with its own project leadership, its own commitments, and its own project plan."

In a sense, the Callisto Simultaneous Release is more defensive than offensive. Callisto attempts to ensure that numbered releases of 10 major projects work together without coming into conflict. (For example, a plug-in associated with one project shouldn't override a plug-in that comes with

another project.) Callisto does not ensure that each project makes optimal use of another project's features. If anything, this project synergy will be a byproduct of Callisto rather than an explicit Callisto goal.

As for structure, each of the 10 projects will follow a loosely coupled version-numbering system. For example, the Eclipse Project released in June will be version 3.2, while the Web Tools Platform will be version 1.5, and the Test and Performance Tools Platform will be version 4.2. Each project's number will continue from where it left off (unlike Java Standard Edition, which went abruptly from version 1.4 to version 5.0). But each project will be required to use Eclipse's four-part numbering scheme. (Roughly speaking, the four parts of an Eclipse version number represent incompatible\_revision . compatible\_revision . minor\_fixes . new\_build.) Most important, each project will contribute its own version number to the Callisto pot. Web Tools release 1.5 will be compatible with TPTP release 4.2 because both releases belong to the Callisto effort.

### SIMPLE AND UNASSUMING

Despite much anticipation among users, the Eclipse Foundation's leaders are being modest and unassuming. "I am a little puzzled over the excitement about Callisto," said Freeman-Benson. "Peo-

## ECLIPSE PROJECT? ECLIPSE PLATFORM? WHAT'S THE DIFFERENCE?

The Eclipse Foundation is an open-source community. It's a group of companies focused on the creation and nurturing of application software. The foundation oversees many projects, one of which is the flagship Eclipse Project. The foundation oversees several other projects—the Web Tools Platform project, the Test and Performance Tools Platform project and many others. Most of these projects rest on the groundwork set up by the Eclipse Project. Ten of the foundation's projects are involved in the Callisto Simultaneous Release.

Within the Eclipse Project there are four subprojects—the Platform subproject, the Java Development Tools (JDT) subproject, the Plug-in Development Environment (PDE) subproject and the Equinox OSGi subproject.

The Platform subproject defines the basic structure. When you combine the Platform with the JDT, you have an integrated development environment for Java—what most software-minded people think about when they hear the name "Eclipse." But the Platform itself is language-neutral and even application-neutral. Under the Eclipse Foundation's umbrella, the C/C++ Development Tools project builds on the Platform to make a C/C++ development environment. Outside the foundation's formal structure, companies like Ivis Technologies use the Eclipse Platform to build other kinds of applications—applications that aren't conveniently categorized as integrated software development environments.

—Barry Burd

# Off a Big Bang

## 10 simultaneous project releases

ple may think that it's going to be an end-all development environment where everything is integrated. But the Callisto effort will be more or less invisible to the user community, because the things that are going to happen as a result of Callisto are that the projects are going to get cleaner. When the little things are done right, they're invisible."

One aspect of this invisibility is the requirement that all Callisto projects use Eclipse's capabilities feature. In Eclipse a capability can be enabled or disabled according to a particular user's needs. (For example, a user may see all the menus for Java Standard Edition development but none of the menus specific to Java Enterprise Edition development.) An administrator can import the capabilities list to a single user or to groups of users. With unnecessary capabilities disabled, the Eclipse interface becomes simpler, less cluttered and easier to use. The enabling and disabling of certain capabilities has been available in Eclipse for some time, but the requirement that Eclipse Project developers make enabling and disabling available for their project's features is new with Callisto.

Another way in which Callisto is hoping to simplify the user's life involves the new Coordinated Update Sites. Until now, installing Eclipse plug-ins meant finding possible mirror sites, choosing among mirror sites, navigating a particu-

lar site's interface, and hoping that the site had sufficient resources for completing the download. The task was often challenging and time-consuming. In contrast, the goal for Callisto's Coordinated Update Sites is to provide convenient one-stop shopping for certain Eclipse plug-in downloads. A Wiki page ([wiki.eclipse.org/index.php/Callisto\\_Coordinated\\_Update\\_Sites](http://wiki.eclipse.org/index.php/Callisto_Coordinated_Update_Sites)) describes the use case for the coordinated, cross-project update site: "Allow end-users to

install some minimum 'platform' and from that be able to use Update Manager to install all of the Callisto release, just by going to just one update site and selecting just one thing."

In addition to providing a consistent, predictable user interface, the plans for the coordinated site tackle bandwidth and mirror disk space issues.

On the subject of installing Callisto, Freeman-Benson has some interesting insights. "We know how to install one

thing, so how hard can it be to install 10 things at the same time? Well, it turns out that reliably installing 10 things at once is more difficult than people think. We were having some infrastructure issues, so we spent a lot of effort to get the installations working."

### WHAT'S NEW, WHAT'S NOT

Some Callisto projects will introduce major user-level changes for the June

► continued on page 30

## THE 10 CALLISTO PROJECTS

Project Name	Project Release Version	Description
Eclipse Project	3.2	The keystone of the Eclipse Foundation's work
Business Intelligence and Reporting Tools	2.1	Tools for creating business reports in Web and PDF formats
Test and Performance Tools Platform	4.2	Tools for testing and profiling applications
Web Tools Platform	1.5	Tools for developing Java Enterprise Edition applications
C/C++ Development Tools	3.1	Tools for creating C/C++ programs
Data Tools Platform	1.0	Tools for working with data and databases
Eclipse Modeling Framework	2.2	Facilities for generating code from models
Graphical Editor Framework	3.2	Facilities for creating graphical editors (for state machines, activity diagrams and other applications)
Graphical Modeling Framework	1.0	Facilities to enhance the use of the Eclipse Modeling Framework and the Graphical Editor Framework
Visual Editor	1.2	An editor for drag-and-drop creation of GUI dialogs and other GUI components

# Eclipse's Callisto Will Send Up

◀ continued from page 29

release. Others will introduce minor user-level changes, internal changes and bug fixes. For two of the projects—the Graphical Modeling Frame-

work (GMF) and the Data Tools Platform (DTP)—Callisto represents a first (version 1.0) release.

All Callisto projects will use ICU4J—the Java version of

IBM's International Components for Unicode libraries. ICU4J extends Java's standard internationalization facilities, while it maintains compatibility with the standard Java inter-

nationalization API. ICU4J provides an easy transition from the Java standard, but supports more languages and more features than the standard API.

The flagship Eclipse Project has some major revisions as part of Callisto. Themes for this Eclipse 3.2 release include scalability, enterprise readiness, extensibility and ease of use. The project boasts Java 6 compiler compliance, and includes a Java code Clean Up wizard. The Clean Up wizard finds and fixes potential problems in Java code—problems like missing annotations, unnecessary casts, unused variables, missing parentheses and nested statements without braces.

Eclipse 3.2 will be upwardly compatible with Eclipse 3.1. (Eclipse 3.1 was released in June 2005.) This compatibility covers many levels, including the API contract, the plug-ins, the source code and the workspace. A document named the "Eclipse 3.2 Plug-in Migration Guide" describes any exceptions to these compatibility requirements.

Other projects are touting some significant user-level improvements as part of Callisto. For example, the Business Intelligence and Reporting Tools (BIRT) project will introduce "reportlets"—chunks of DHTML that may constitute parts of one or more Web pages. BIRT will also allow users to join data sets, providing greater flexibility in generating reports.

Some features will appear only as technology previews in June's Callisto release. For example, the Web Tools Platform will demonstrate some JSF tooling and EJB 3 support, and the Test and Performance Tools Platform (TPTP) will preview its flashy new Automated GUI Recorder.

## LOOKING TO THE FUTURE

Release candidates of Eclipse 3.2 and the other Callisto projects are already available at [download.eclipse.org/eclipse/downloads/index.php](http://download.eclipse.org/eclipse/downloads/index.php). Between now and the June release date, changes to the code will be bug fixes, performance improvements and other behind-the-scenes tweaks. To make the most of these final weeks, Callisto organizers are sponsoring a Great Bugs Contest.

When the June release date has passed, Eclipse organizers and team members will look back and evaluate the success of the Callisto effort. Official-

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# 10 Projects All at Once

ly, they'll be giving the thumbs-up or thumbs-down to another yearlong effort culminating in a simultaneous release. But unofficially, the positive momentum surrounding Callisto all but guarantees a second year. "After doing this once, we can't go back," said Freeman-Benson. "We won't go back and make project releases more confusing again." The 2006-2007 effort will be named for yet another moon of Jupiter. Point your search engine to names like Io, Europa and Ganymede.

The goals of this year's Callisto release focus on prevention, ensuring that 10 Eclipse projects keep their feature sets from interfering with one another. Next year's focus may be more proactive, involving tighter integration among the participating projects. Projects may be expected to use one another's public APIs or to explore ways of building on one another's features. (For example, the TPTP and BIRT projects can now cooperate to report test and profiling data. TPTP generates the data, and BIRT generates reports from the data. The cooperative features are available within the Callisto release, but the push for these cooperative features didn't come directly from the Callisto effort.)

The 2006-2007 coordinated release plan will probably involve more than 10 projects. (This past year, several projects expressed interest in joining the coordinated release after the initial Callisto launch. But the Callisto organizers decided to hold the line with their original 10 projects.) One way or another, projects in the Eclipse rubric will maintain their traditional independence. The TPTP project plans to do two releases per year (one release associated with Callisto, and a second "free agent" release in Q4) and other projects are free to follow suit. For the past few years, the overarching Eclipse Project has seen one major release in June of each year, and the Eclipse consortium plans to continue on this schedule.

In the long term, the Callisto model extends far beyond Eclipse. Callisto brings yet

another level of respectability to open-source software. In 1984, when Richard Stallman founded the GNU project, managers envisioned unruly hackers developing buggy

code for people who were unwilling to pay a decent price. But groups like Eclipse, JBoss and Red Hat have changed that perception.

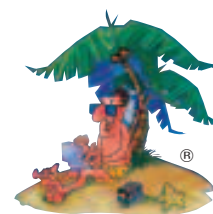
JBoss' focused business

model led to its securing US\$10 million in venture financing in 2004, and this year to its acquisition by Red Hat. And Eclipse has created a model in which complemen-

tary and competing companies work together toward some of their common goals. Open-source software was never the domain of outlaws and ne'er-do-wells, but nowadays industry professionals are putting their trust and their dollars in the direction of open-source software. ■

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## EDITORIAL

## Sun Microsystems 2.0

The McNealy era is over, and the Schwartz era is beginning. Jonathan Schwartz, one of the brightest, most innovative thinkers in Silicon Valley, has a tough road ahead of him as he seeks to turn around the ailing Sun Microsystems as its new CEO. The company's abysmal financial performance notwithstanding, there's a lot of work to be done.

Of course, Schwartz has already made a lot of changes at Sun during his tenure as president and COO, and while many of those bold actions have garnered critical praise, tangible results have not yet been apparent.

Schwartz has already played many of his strongest cards: Pushing to open-source crown jewels such as Solaris and the SPARC processor designs, revamping pricing models, emphasizing services, adopting commodity x86 chips from AMD, and buying companies to strengthen its positions in the storage and business-integration markets.

Former CEO Scott McNealy and Schwartz have insisted that Solaris 10 is gaining against Linux and Windows. They have been able to point to respectable sales for the new Galaxy server, which uses AMD's Opteron processors. A high-profile rapprochement a few years ago with Microsoft has helped Sun compete in a heterogeneous world, though it's hard to see tangible benefits beyond an infusion of cash from Redmond.

Meanwhile, the lack of a high-profile sales chief, a bewildering array of hardware, software and service offerings, a penchant for juvenile bad-mouthing of competitors, and a dogged insistence on doing everything its own way as a vertically integrated company leads one to wonder what Schwartz will do next.

Certainly, while the company has gained a lot of attention for its new-found emphasis on open-source software, and while Schwartz is widely admired due to his excellent communication skills and obvious intelligence, it's not clear that he's the man to turn this big ship around. By leaving McNealy as chairman, and without giving any hint of new strategies or tactics, it's hard to assess the true meaning of this executive shift.

From the enterprise development and ISV perspective, here are our suggestions for Schwartz as he ponders new directions:

**Solaris:** Stay the course. Making the operating system free and open-source was an excellent move. The challenge will be in deciding how much Solaris x86 should be tied to Sun hardware, versus being marketed as an open platform that's a hardware-independent alternative to Linux and Windows. We recommend pushing for openness: Grow the market, so you can reach a wider audience with your software and services.

**Open source:** In the past few years, the company has donated a lot of code to the open-source community—but mainly to projects that the company controls, such as NetBeans and OpenOffice. Sun still determines what is added to the codebase, who can contribute to the project, and the future directions of the software. Learn from groups like Eclipse and Apache—the best open-source projects are not dominated by a single company.

**Java:** Work more closely with your partners. The more Java is seen as a Sun product, the less successful it will be—and the less willing companies like BEA, IBM, Novell, Oracle and Red Hat/JBoss will be to innovate on it. Open up Java and the Java Community Process. Likewise, open up JavaOne to more players. Why are all the keynotes from Sun employees? Why are the vast majority of IDE-centric classes on NetBeans, virtually ignoring Eclipse and JBuilder? Build bridges, not walls.

**NetBeans:** Finally, continue advancing your technology—but also embrace Eclipse. Don't just support it, *embrace* it. Make Sun's Eclipse-based tools the best in the business. Make it super-easy to build applications for Sun's server using Eclipse. Your goal should be to make it easier for developers to create Java applications, not divide the Java community into a NetBeans-centric Sun world and an Eclipse-centric everyone-else world. ■

## It's Not Scott's Fault

In 1992, when I became editor-in-chief of the technical magazine SunWorld, I learned that the conventional wisdom among Unix/RISC industry insiders was that Sun Microsystems was on the verge of failure. And it was all Scott McNealy's fault.

Its quarterly results were showing strong growth and increased profits, but that was just due to a series of tricks, of smoke and mirrors, of one-time lucky hits and seasonal lifts, all of it nonrepeatable. *Next quarter* it would all collapse, you wait and see. Sun can't compete against Hewlett-Packard's RISC/HP-UX boxes, or the mighty AIX systems of IBM, or the rampant Silicon Graphics Inc. with its Hollywood connections.

And next quarter, revenues would be up. And profits too. Funny. But the dismissive predictions of the inevitable fate of Sun just got louder.

Well, now, nearly 15 years later, the predictions finally came true, and Scott McNealy is out. Like Mark Twain's broken watch, the movement of time finally caught up with the predictors.

I've got news for you: Sun isn't failing because Scott is incompetent. The situation Sun finds itself in is not survivable, and hasn't been for years. The miracle of Sun is that it has survived so long *in spite* of that. Who else could have kept it going all these years?

Year after year, Scott and Sun refused to go quietly to their preordained fate. They twisted and turned, they dreamed up new schemes, they deliberately zigged when their massive rivals zagged. Even when their systems were slower, their sales force less connected to the Fortune 500, their low-end systems challenged by the latest loss leader from HP, they still kept going. Sun, with Scott at its helm, was like one of those bugs living in an underwater volcano. It's amazing they live and even seem to thrive under such hostile conditions!

In that decade of the 1990s, Sun was really the only true innovator in its space. They drove the low end of the market with systems that, unlike those of rivals, actually sold at a profit. They invented the precursor to Java, then reinvented it as Java on the desktop, then reinvented it again as Java on the server. They pushed and pushed and pushed on the idea "The network is the computer!" until one fine day—when none of us were looking—it became true.

I finally stopped counting the death watches for Scott McNealy and Sun. Maybe one fine day Sun would run headlong into the wall, but obviously none of us would recognize the early signs.

And in fact none of us did. It might actually have been their greatest rev-

enue success—being the preferred server for the dot-com boom years—that set them up for the final fall. You can't survive a run-up and then a crash like that without a miracle. Sun has hung on six years since then, but the sustainable miracle never came.

Twist and turn though they may—smoke and mirrors, hustle and flow all aside—now mighty Sun has struck out.

Damn!

Maybe they should have sold the joint to IBM a couple of years ago. IBM would maybe be able to do something with open-source Solaris, would definitely have done something more with Linux-on-SPARC, and knows how to pull off the miracle of living in a world with multiple platforms.

Maybe they can *still* sell it to IBM—who would take on the painful task of laying off the huge number of people Wall Street is allegedly demanding. (Thirty thousand people! What business do you know that has faced reality and laid off 30,000 workers—and then turned themselves around as a result of that?) Maybe IBM wouldn't have to lay off quite that many to make it work.

Not that Jonathan Schwartz will do that. Scott has kicked himself upstairs and says he's put in his place somebody with the same policies and beliefs. In other words, the reform is no reform. Let's see if Jonathan turns out to be a seat-warmer until the faceless Board can bring in someone able to perform the radical surgery that may or may not help the situation. (*Ed Zander, anyone?*)

But as Sun sets painfully in the West, I just want to say I'm not impressed with all the Told You So's that will come out of the woodwork now. As I say, they've been writing off Sun for 15 years or more; now, finally—and only by accident—they're right. ■

*Michael "Mac" McCarthy, former editor-in-chief of IDC's SunWorld Magazine, is now an editor with AllBusiness.com.*

## CORRECTIONS

Enea's vice president of marketing is Tom Hayes. His name was incorrectly reported in the April 15 Special Report.

The most recent release of TIBCO's General Interface features SOAP and WSDL communications, as well as http/S GET and POST operations. The Java Watch column of April 15 misrepresented the protocols with which the product can work.

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# Will Sun Ever Formulate a Strategy?

Retired army generals, it appears, are not the only ones complaining about leadership at their former employer. John Shoemaker, who was formerly executive vice president of worldwide operations at Sun and later director of its server unit, recently published an extraordinary written indictment of what went wrong at Sun.

Shoemaker's analysis, which I'll get into in a moment, is not the mad ramblings of a blogger, but a lengthy essay in *Business Horizons*, the journal of the Kelley School of Business at Indiana University, where Shoemaker is a member of the Dean's Advisory Council. So, you would think he knows what he's talking about.

In the piece, which you can read at [tinyurl.com/pjlo9](http://tinyurl.com/pjlo9), Shoemaker lists several factors he feels contributed to Sun's rapid decline. He then explains why things cannot improve until there is a change in leadership. [As we went to press, Sun announced the resignation of its CEO, Scott McNealy. —Ed.]

Shoemaker argues—correctly, in my estimation—that Sun's SPARC processor architecture has never been competitive. Rather than the chip, what enabled Sun to enjoy success was Solaris, its version of Unix. Specifically, the winner was Solaris' ability to scale well.

When the Internet bubble came along, Sun was the system of choice because the anticipated traffic boom in those days—before clustered systems were common—required big, scalable, non-mainframe boxes. That is, huge Sun servers. And because Sun had always been a network-oriented company, the Sun/Solaris combo had many features that were particularly appealing to upstart Internet firms and telcos.

Then came the crash, which hit Sun doubly hard, says Shoemaker: Not only did Sun undergo the same contraction other vendors did, but because it had dominated the market segments that were now going bankrupt, there was a huge amount of fairly new Sun inventory available on the market at drastically reduced prices.

Here, in Shoemaker's estimation, is where Sun's leadership first really failed. Scott McNealy, the then and current chairman, would not accept the dire nature of the market change and did not cut headcount anywhere near as much as his competitors. Instead of a few dramatic reductions, Sun diminished headcount in a series of feckless moves that undercut morale for a protracted period—making it difficult for the company to get back on its feet.

Morale hit a new low, he says, when Sun's No. 2 executive, Ed Zander,

departed. Zander was a street brawler with some polish and good business instincts, and he was well-respected both inside and outside of Sun. (His remarkable success as CEO of Motorola has conclusively proven his abilities.) Shoemaker laments his departure as a critical lost opportunity and scolds Sun for not bringing in a seasoned replacement from outside the company. Instead, it promoted someone Shoemaker calls "a junior, unproven, internal person to the COO position." He is referring to Jonathan Schwartz, of course.

Last, Shoemaker addresses the question of x86 sales that are now part of Sun sales. He points out that once scalability went horizontal, toward clusters and grids, rather than larger multiway systems, Solaris' advantage was minimized, while the performance of SPARC processors in one-way or two-way servers became a liability. So, Sun had no choice but to get into the business of selling x86 boxes (based on AMD processors). How Sun can make headway in this market competing against IBM, HP, and Dell is something neither he nor anyone else cares to speculate on.

Shoemaker's essay is unsparing but not unfair. However, it stops there. What Shoemaker does not do is make recommendations. And this is, of course, what is needed. Many analysts, including me, have previously written about Sun's travails but have generally confined remarks to the business matters. What Shoemaker makes clear, however, is that

the problem lies squarely with the leadership. Certainly, other analysts have called for McNealy's head, but mostly on the basis of the lackluster stock performance. However, stock price is not always a good proxy for company health.

A case in point is Oracle. Like Sun, Oracle's stock price has spent much of the past two years trading within a US\$2 range.

However, the companies could not be more different. When Oracle realized that pure-play databases were no longer a growing market, it aggressively went out to obtain the goods it needed. Enterprise software? Check! (JD Edwards, PeopleSoft, Siebel) Open source? Check! (Innovo, Sleepycat) Numerous other acquisitions in areas such as Java application servers, grid computing, collaboration software (and on and on) demonstrate Oracle's aggressive response to market changes. It has a clear policy of leveraging its DBMS customer base to sell add-on enterprise software packages.

Back to Sun, where we have SPARC servers, x86 boxes, Java, SeeBeyond and StorageTek. There is no announced corporate strategy that unites these disparate technologies, nor is it easy to conjure one that would. This, more than anything, is what suggests that a leadership change is necessary. The bubble is over. Cisco, IBM, HP and Oracle have all established strategies that have led to recovery. When will Sun? ■

Andrew Binstock is the principal analyst at Pacific Data Works and formerly the editor-in-chief of UNIX Review.

## Integration Watch



Andrew Binstock

## Which Internet Apps Are Most Critical to Your Business?

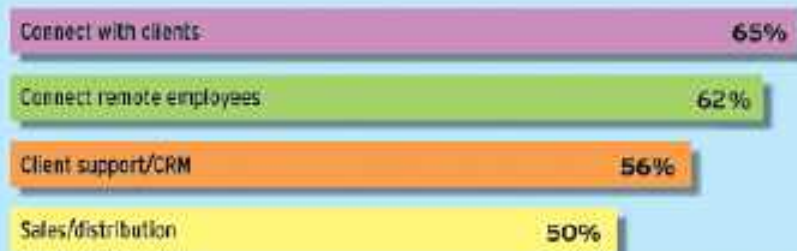
DATA WATCH

The Internet and related technologies are becoming increasingly critical to America's top businesses, according to Deloitte's 2006 CEO Survey, an annual poll of chief executives.

In addition to those illustrated here, the survey showed that essential Internet applications include those for research collaboration, voice communications, reporting and regulatory compliance.

What's more, 97 percent of CEOs say they will be hiring a significant number of new employees in the next 12 months, and 21 percent judged wireless communications to be the area with the largest growth potential, up from 11 percent a year ago.

Respondents were CEOs in Deloitte's "Fast 500," the top performing North American companies based on percentage of revenue growth over the past five years.



Source: Deloitte and Touche USA

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# Riding the Web 2.0

The dot-com rollercoaster years, while enriching a few and birthing such service companies as Amazon and Google, was not a time that should be looked back upon fondly. While software developers were central to whatever thread of reality was spun into the cotton candy palaces, it was "BizDev" and marketing that held court and partied. Programmers putting in 80- and 100-hour workweeks were burned up like kindling to fuel the fantasy. So I've not been inclined to embrace the so-called "Web 2.0." Even the name, which combines vagueness with floating point specificity, seems a throwback to the hype of the late 1990s.

At first, Web 2.0 seemed to mean "browser-based rich interfaces." This made it easy to disdain. Whatever richness can be drawn from the intersection of Internet Explorer, Mozilla and Opera has the quality of a dancing bear—you don't judge the quality of the dancing (or the interface), you judge the fact that it's dancing at all.

Lately, though, the Web 2.0 hyperbole has gravitated toward a new center, one that is more worthy of consideration. This is the value of diffuse collaboration. From many small self-centered contributions can emerge a centralized source of widespread value. Tagging images on a site like

Flickr is primarily a personal way to group photos from your Christmas cruise vacation, and yet the emergent value is a site whose imagery is fast becoming the best visual archive of the times (in breadth, if not necessarily quality).

Similarly, although the blogosphere tends to produce half-arguments echoed broadly, it's certainly no worse than what one gets from television news. Ironically, the value of diffuse collaboration is best illustrated by the hyperlink, in which the relatively easy addition of an <a> tag to a document creates the World Wide Web. The further insight that this amounted to a "vote" for the quality of the destination and that these could be aggregated and exploited was the key to Google's original PageRank algorithm.

It's perhaps difficult to remember how much better Google was than the competition, which tried to infer authority from mere indexing or the opinions of an overwhelmed and underpaid human reviewer. (Yes, I'm aware that Google predates the "2.0" hype, but its current importance to software developers is a leading indicator of this new trend.)

Right now, the most consistent source

of interesting breaking technical news is Digg, which makes it easy to vote on the value of a link. Digg has recently surpassed Slashdot in traffic. Where Slashdot's value has always primarily been the modding (modifying) up and down of comments, Digg's value is simply the dynamic modding up and down of a story. Nevertheless, Digg is not the exemplar of Web 2.0 that it could be. Digg is an example of distributed collaboration, but it's no more an example of diffuse collaboration than reviewing a Word document via SharePoint.

The problem is that to contribute to Digg, you have to do so by going to [www.digg.com](http://www.digg.com) and voting up and down on stories. Compare that with contributing to Google's PageRank (or any modern search algorithm): You do so by adding a link to a page on your own site. Similarly with blogs: You contribute to the blogosphere by adding an entry to your own blog.

Google and Technorati and your RSS newsreader work, not by trying to create a single place that is all things to all people, but by providing a filtered view to all that is out there. For a service to rec-

ommend music (or movies or Web pages or microwave ovens) in a diffuse manner would require that your contribution be controlled by you, not the service. In that way, a review or recommendation could be aggregated by any number of services, just as a hyperlink can be interpreted and weighted by any number of search engines and an RSS feed can be subscribed to or not by any number of aggregators.

The problem with diffuse contributions is that they require automated retrieval and indexing. Only the largest companies can spider and index all the HTML on the Web. This is why microformats are actually the key to Web 2.0.

The blog syndication formats (RSS in all its drama, Atom and OPML) are the best examples of relatively simple formats whose widespread adoption leads to beneficial network effects. Finding a route toward a network effect is the hardest thing about launching a Web-based service. With a microformat and some way to discover repositories of those formats on the Web (i.e., some way short of spidering the world's HTML), it's still quite possible for a new company or team to launch its way into market dominance. That, at least, is one value of the 1990s worth aspiring to. ■

Larry O'Brien is a technology consultant, analyst and writer. Read his blog at [www.knowing.net](http://www.knowing.net).


## Windows & .NET Watch



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# The Clearinghouse Model

The notion of a “clearinghouse” is central to executing secure transactions with entities you don’t trust. The main idea is for the clearinghouse to guarantee that both parties to the transaction have an acceptable outcome, taking a fee or percentage of the transaction cost for this service.

Probably the most familiar example of a clearinghouse architecture is a stock exchange, which makes it possible for two entities who do not trust each other to buy and sell stock. Both the buyer and the seller have a relationship with the exchange, but neither has a direct relationship with the other. All transactions are with the exchange, not with your counterpart in the transaction.

For example, the exchange buys the stock from the seller, and you buy the stock from the exchange. If the seller turns out to be dishonest—if he didn’t actually own the shares he sold, for example—the exchange will absorb the cost of the fraud and get the stock from somewhere else at the agreed-to price. By the same token, the seller is paid by the exchange whether or not the buyer’s check clears. Both the buyer and seller have a legal, contractual relationship with the exchange that defines enforceable penalties if they’re dishonest.

I recently came across an interesting, though somewhat flawed, application of the clearinghouse architecture in RentACoder ([www.rentacoder.com](http://www.rentacoder.com)). RentACoder matches contract programmers with clients in such a way that some of the risk associated with a project is minimized for both. Buyers post “Bid Requests” on the site for specific programming projects.

Most of the RentACoder projects seem quite small in scope (for example: I want a shell script that runs the same four SQL queries against four different databases), but some projects are more significant. Programmers bid on the projects they find interesting. When buyer and seller agree on a price and scope of work, a virtual contract is signed and the buyer puts the money into an escrow account managed by RentACoder. No work happens until funds are available to pay for the work.

At present, there are about 140 coders on the site and about 5,300 projects, but many of these projects are not viable, typically because the price cap specified in the bid is way too small. Most of the buyers are based in the United States, the United Kingdom and

Australia. The programmers are based all over the world, with the majority of them in Romania, India and the United States. (My guess is that the U.S. programmers don’t live in high-priced areas of the country, given that they’re competing with programmers from locations with very low costs of living.)

If a project goes over budget or can’t be completed in the agreed-to time frame, then the contract goes into mandatory mediation performed by RentACoder. If the overage isn’t the programmer’s fault (changing specification, failure of a third-party tool, etc.) then the programmer will get paid for work performed.

RentACoder is not a full-blown clearinghouse. To be such, it would have to guarantee that the project be completed in the specified time frame and budget, which is to say that it would need its own programming staff or equivalent to fill in when a contractor failed. The clearinghouse would also have to be involved in the pricing model.

As it is, an inexperienced contractor could agree to do a project at a ridiculously low cost based on a faulty notion of

what needed to be done. Solving that problem would require that the clearinghouse vet the projects to make sure that a worse-case scenario (the clearinghouse would have to do all the work) was viable. To handle that, RentACoder would have to be much more involved in the requirements-gathering, project-specification and price-setting process than it now is. The deadly combination of inexperienced buyers and inexperienced sellers agreeing to build insufficiently specified software for a ridiculous price should simply not be possible. That is, part of the RentACoder fee should go toward vetting to at least improve the odds of a successful outcome.

On the other hand, even a partially implemented clearinghouse model provides some benefit: The programmers will get paid if they do the work, and the buyers will not have to pay anything if the programmer doesn’t deliver. Moreover, the most unpleasant part of dealing with an inexperienced software buyer (explaining why a project will take longer or cost more than you thought) is handled by RentACoder, which makes sure that the programmer is compensated even if the project can’t be completed because of unforeseen problems. These are all valuable services. ■

*Allen Holub is an architect, consultant and instructor in C/C++, Java and OO Design. Reach him at [www.holub.com](http://www.holub.com).*

## Java Watch



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# Agile + Testing = SOA Realized

Organizations have spent years and millions of dollars creating huge, monolithic applications built and managed in siloed departments under a development process that often takes too long and is very high-risk.

SOA is designed to break down the silos, to enable asset- and resource-sharing through different departments when needed, and ultimately to let businesses respond more quickly to changes in their markets or among their partners and customers. Realizing that goal, though, will require a radical change in the way software is conceived, written, tested and ultimately deployed.

That is the thinking of Rally Software and iTKO Software, which are working on bringing together the worlds of agile development and test-driven development to create an environment built for use in today's emerging architectures. SOA has been focused on runtime; Rally and iTKO want to shift the focus to development.

Business, and the software to support it, "is a perpetual motion machine," said Richard Leavitt, CTO at Rally, during an interview that included iTKO. "Things need to be easy to modify and change." He noted that with large CRM applications such as SAP, businesses have had to adapt to how the software works. "That doesn't cut it anymore," he said. "Businesses are never standing still."

The new application life cycle "is high on collaboration and sharing...visibility," said Jim MacKay, chief marketing officer ("but my history's a technical one") at iTKO. Achieving it, he said, is not a technological problem. "It's about people and processes involved in producing and using these component services."

Agile development processes are an important first step in creating applications for an SOA world, Leavitt main-

tained. "Agile focuses on the meaningfulness [of an application or service] to the end user. It's not about metrics that look at how many lines of code a developer is producing, or if delivery of the project is on track for six months out. Agile is about prioritizing the development effort around end-user requirements. It's about the business need—the highest priorities get met first." This is true whether the service was created in-house, or purchased or found in a repository someplace.

Iterative development forces organizations to deal with changes as they arise. Agile development, he added, also puts a premium on collaboration and coordination. "When something [in an application] breaks, everyone knows about it." This type of alerting, and of bringing together all possible stakeholders, breaks down the fiefdoms that often arise in development organizations.

Hand in hand with rapid iterations is the ability to test quickly, to gain as much feedback as possible as early on as possible, MacKay said. "You need to convert the requirements into functional acceptance tests, and then IT can assign the requirement to a deliverable," he explained. "We want to build capability check boxes into the agile methodology, so that as we successfully execute tests, we give a check."

Leavitt expanded on this notion of acceptance-test-driven development (ATDD). "Classic test-driven development usually occurs at the unit test level, the development level. You write a test, and then write code until it passes the test, then you're done. With ATDD, tests are passing that show we're meeting the requirements of the end user. Of course, the developer has his own check boxes too for functional tests and so forth."

The pain of SOA to this point, Leavitt and MacKay agree, has been trying to figure out how to tie these services back into a business process, and testing the whole end-to-end implementation. "Despair comes when a service's interface changes unexpectedly, or when an app breaks due to a change in a service, or with bottlenecks, or support organizations trying to track back to a failure in an application that's using outside services," MacKay said.

"Big vendors paint this picture of SOA, but they can't answer how they'll ensure quality," he added. "So now the despair leads to the feeling that SOA is good for nothing. But when you have control over your services, when you have visibility and know the people, you can find success, and some best practices are starting to come out."

In an SOA runtime, everything is always on, services are late-binding and the workflows are dynamic. This makes development sandboxes critical for testing every possible combination of the workflow, and for associating the test bundles with business services.

Rally, and iTKO, MacKay said, "agree on a heck of a lot of stuff when it comes to producing a huge SOA environment. But Rally is hosted, and we're behind the firewall, so we're trying to figure out how to bring it together, to see what the revenue model is." The companies have been working together for a few months, Leavitt said, but there is no timeframe for any product integrations or new product development. When asked if a merger might be in the works, Leavitt would not comment.

The two companies have only just begun to discuss their vision, but it makes good sense. Much of the discussion around SOAs has been about repositories, connections and deployments. It's good to see a focus on development and testing of services as an important first step to having an effective SOA. ■

*David Rubinstein is editor-in-chief of SD Times.*

## Industry Watch



David Rubinstein

## BUSINESS BRIEFS

**Compuware's** board of directors has announced a US\$125 million buyback of outstanding shares of its common stock. It will repurchase Compuware stock on the open market from time to time based upon market and business conditions

... **Cape Clear Software** has secured US\$15 million in equity funding, led by Menlo Park, Calif.-based **InterWest Partners**. The funding also included investments from **Accel Partners**, **ACT Venture Capital** and **Greylock Partners**. "Cape Clear has secured a leading position in its field based on the core values of open standards, infrastructure, agnosticism and a commitment to increasing developer and administrator productivity," said Annrai O'Toole, CEO of Cape Clear, which provides an SOA platform based on an enterprise service bus.

**EARNINGS:** Embedded systems developer **Enea**, with headquarters in Sweden and San Jose, has posted positive financial results for its first quarter, 2006, showing upward revenue trends for both its software products and its professional services. This is the eighth consecutive quarter of positive growth for Enea, according to the company. Software sales for the quarter increased by 12 percent to US\$8.5 million from the year-ago period, during which time the company posted \$7.74 mil-

lion in software sales. Professional services rose 5 percent to \$16.4 million, up from \$15.6 million a year ago. Of a total of about \$25 million, net profits were reported to be \$2.15 million, an operating margin of 8.6 percent, the company said.

... **Informatica** reported first-quarter 2006 earnings of US\$73.1 million, up 25 percent from \$58.4 million recorded in the first quarter of 2005. Net income was \$5.3 million, or 6 cents per diluted share, up 20 percent from the net income of \$4.3 million, or 5 cents per diluted share, in the first quarter of 2005. Informatica also announced that its board of directors has authorized a \$30 million stock repurchase program ... Driven by near-record quarterly sales, **Apple Computer** posted revenue of US\$4.36 billion and a net quarterly profit of \$410 million, or 47 cents per diluted share, for its second fiscal quarter of 2006. These results compare with revenue of \$3.24 billion and a net profit of \$290 million, or 34 cents per diluted share, in the year-ago quarter. Gross margin was 29.8 percent, equivalent to the year-ago quarter. International sales accounted for 43 percent of the quarter's revenue. "We are pleased to report the second highest quarterly sales in Apple's history, resulting in year-over-year revenue growth of 34 percent and earnings growth of 41 percent," said Peter Oppenheimer, Apple's CFO. ■



## CALENDAR OF EVENTS

<b>STAR East</b> Orlando, Fla. SOFTWARE QUALITY ENGINEERING www.sqe.com/stareast	May 15-19
<b>JavaOne</b> San Francisco SUN MICROSYSTEMS java.sun.com/javaone/sf	May 16-19
<b>USENIX 2006</b> Boston THE USENIX ASSOCIATION www.usenix.org/events/usenix06	May 30-June 3
<b>BREW 2006</b> San Diego QUALCOMM www.brew2006.com	May 31-June 2
<b>Software Security Summit East</b> Baltimore BZ MEDIA www.S-3con.com	June 5-7
<b>Tech-Ed</b> Boston MICROSOFT www.microsoft.com/events/teched2006	June 11-16
<b>Better Software Conference</b> Las Vegas SOFTWARE QUALITY ENGINEERING www.sqe.com/bettersoftwareconf	June 26-29
<b>Agile 2006</b> Minneapolis AGILE ALLIANCE www.agile2006.com	July 23-28
<b>Black Hat USA</b> Las Vegas BLACK HAT www.blackhat.com	July 29-Aug. 3
<b>SIGGRAPH</b> Boston ACM SIGGRAPH www.siggraph.org/s2006	July 30-Aug. 3
<b>Worldwide Developers Conference</b> San Francisco APPLE COMPUTER developer.apple.com/wwdc	Aug. 7-11
<b>LinuxWorld Expo</b> San Francisco IDG WORLD EXPO www.linuxworldexpo.com	Aug. 14-17
<b>EclipseWorld 2006</b> Boston BZ MEDIA www.eclipseworld.net	Sept. 6-8
<b>Embedded Systems Conference Boston</b> Boston CMP MEDIA www.esconline.com/boston	Sept. 25-28
<b>STAR West</b> Anaheim SOFTWARE QUALITY ENGINEERING www.sqe.com/starwest	Oct. 16-20
<b>Software Test &amp; Performance Conference</b> Boston BZ MEDIA www.stpcon.com	Nov. 7-9

For a more complete calendar of U.S. software development events, see [www.bzmedia.com/calendar](http://www.bzmedia.com/calendar). Information is subject to change. Send news about upcoming events to [events@bzmedia.com](mailto:events@bzmedia.com).



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